STATE OF NEW JERSEY
SCHOOLS DEVELOPMENT AUTHORITY

1 WEST STATE STREET
P.O. BOX 991
TRENTON, NJ 08625-0991
609-943-5955

Addendum # 1

New Jersey Schools Development Authority
Office of Procurement
1 West State Street
Trenton, NJ 08625
Phone: 609-777-1922
Fax: 609-656-4609

Date: **April 17, 2013**

PROJECT #: **JE-0021-B01**
New Elementary School #3

DESCRIPTION: **Addendum # 1**

This addendum shall be considered part of the Design-Build Information Package issued in connection with the referenced project. Should information conflict with the Design-Build Information Package, this Addendum shall supersede the relevant information in the Design-Build Information Package.

A. CHANGES TO THE PROCUREMENT PROCESS:

1. Extension of Bid Date:

The date for submission of Technical and Price Proposals is changed from 5:00 pm, Tuesday, April 30, 2013 to 5:00 pm, Tuesday **May 7**, 2013. See Items A.2.b and A.2.c below for modifications to the RFP to implement this extension.

2. Modifications to Request for Proposals:

a. **REVISE:** The bulleted list included in Section 1.3 B of the RFQ/RFP ("Components of Response") shall be revised as follows, to modify the number and format of responses to the RFQ/RFP (additions in **bold and underlined** text; deletions in ~~*strikethrough and Italics*~~):

A responsive Proposal consists of the following three components:

- Project Rating Proposal (NJSDA Form PRP)
- Technical Proposal Forms (**provide as** unbound original, three (3) bound copies, and ~~one (1)~~ **two (2) CDs** containing full cover-to-cover PDF ~~copy required~~) (FORMS PROVIDED).
- Lump Sum Price Proposal (NJSDA Form PP)

b. **REVISE:** Section 1.3 B.2 of the RFQ/RFP ("Technical Proposal") shall be revised as follows, to change the due date for submission of the Technical Proposal to May 7, 2013 and to modify the number and format of responses to the RFQ/RFP (additions in **bold and underlined** text; deletions in ~~strikethrough and Italics~~):

2. Technical Proposal

Interested Firms must submit a Technical Proposal, which provides responses to the non-price "other factors" evaluative criteria requirements of this RFP. Interested firms must submit one unbound original, three (3) bound copies, and ~~one (1)~~ **two (2)** CDs containing full cover-to-cover PDF copies ~~required~~ of the Technical Proposals to the NJSDA for consideration. The Technical Proposals must be received by the NJSDA by 5:00 PM on Tuesday, ~~April 30~~ **May 7**, 2013. Faxed or e-mailed Submittals shall not be accepted.

c. **REVISE:** The fourth paragraph of Section 1.3 B.3 of the RFQ/RFP ("Price Proposal"), shall be revised as follows, to change the due date for submission of the Price Proposal to May 7, 2013 and to modify the number and format of responses to the RFQ/RFP (additions in **bold and underlined** text; deletions in ~~strikethrough and Italics~~):

The Price Proposal must be sealed and submitted with the original Technical Proposal and received by the NJSDA by **5:00 PM** on **Tuesday,** ~~April 30,~~ **May 7, 2013**. Faxed or e-mailed Price Proposals shall not be accepted

B. CHANGES TO THE PROJECT MANUAL:

1. Volume 1: Modification of Technical Proposal Forms

REPLACE: The following items have been modified from the forms originally included in the Project Manual and are to replace the original forms. For the convenience of the bidders, the forms are collectively included in this Addendum as Attachment 1.1, and have been updated on the NJSDA's in NJSDA Design Build Advertisements RFP link for this Project, which is located on the NJSDA Web Site at www.NJSDA.gov.

Technical Proposal Forms (includes the following):

1. Design-Builder's Experience on Projects of Similar Size, Cost and/or Complexity
2. Identification and Qualification of Design-Builder's Key Team Members
3. Identification of Required Subcontractors
4. Design-Builder's Design Consultant's Experience on Project of Similar Size, Cost and/or Complexity
5. Identification and Qualification of Design Consultant's Key Team Members
6. Design-Builder's Demonstrated Prior Affirmative Action Experience
7. Design-Builder's Overall Approach to the Project
8. Design-Builder's Approach to Schedule
9. Approach to LEED Requirements
10. LEED for Schools 2009 Project Checklist
11. Small Business Enterprise Forms "B" and "C"
12. Technical Proposal Certification.

2. Volume 1: Addition of Project Labor Agreement Documents

ADD: The following items, inadvertently omitted from the Project Manual, are to be added to the Project Manual and are collectively included in this Addendum as Attachment 1.2:

Project Labor Agreement Documents
1. Project Labor Agreement
2. PLA Letter dated November 16, 2009
3. Contractor Signature Page
4. Subcontractor Letter of Assent

3. Volume 1: Modifications to Design Build Agreement APPENDIX A ("SPECIAL CONDITIONS"):

REVISE: Appendix A to the Design-Build Agreement (captioned "Special Conditions") shall be revised as follows (additions in **bold and underlined** text; deletions in ~~*strikethrough and Italics*~~):

A.3 Substantial Completion shall be achieved within ~~*680 days*~~ **973 calendar days** from the Commencement Date. Final Completion shall be achieved within ~~*740 days*~~ **1,063 calendar days** from the Commencement Date.

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4. Volume 1: Modifications to Procedural Specifications:

a. **REVISE:** **Specification** Section 01010 "SUMMARY OF WORK" Section 1.6 WORK SEQUENCE AND PROJECT SCHEDULE, Item number 4 shall be revised as follows (additions in **bold and underlined** text; deletions in ~~*strikethrough and Italics*~~):

1.6 WORK SEQUENCE AND PROJECT SCHEDULE:

A. The following represents selected milestones for the Work only:

...

4. The Project shall achieve Final Completion within ~~*1,061 days*~~ **1,063** calendar days after the Commencement Date as defined in Sections 1.11 and 1.53 of the Agreement.

5. Volume 2: Modifications to Performance Specifications:

a. **REPLACE:** Replace **PERFORMANCE SPECIFICATIONS** Section B2050.30 "Exterior Oversized Doors" in its entirety with revised Section B2050.30 "Exterior Oversized Doors" dated April 5, 2013, included herewith as Attachment 1.3.

b. **DELETE:** Delete **PERFORMANCE SPECIFICATIONS** Section B3010.10 "Steep Slope Roofing" in its entirety.

c. **ADD:** Add **PERFORMANCE SPECIFICATIONS** Section B3010.50 "Low Slope Roofing," included herewith as Attachment 1.4.

d. **REPLACE:** Replace **PERFORMANCE SPECIFICATIONS** Section C1090.70 "Storage Specialties" in its entirety with revised Section C1090.70 "Storage Specialties " dated April 5, 2013, included herewith as Attachment 1.5.

e. **REPLACE:** Replace **PERFORMANCE SPECIFICATIONS** Section C2000.00 "Interior Finishes" in its entirety with Revised Section C2000.00 "Interior Finishes " dated April 5, 2013, included herewith as Attachment 1.6.

f. **REPLACE:** Replace **PERFORMANCE SPECIFICATIONS** Section D6000.00 "Communications" in its entirety with Revised Section D6000.00 "Communications" dated April 5, 2013, included herewith as Attachment 1.7.

g. **REPLACE:** Replace **PERFORMANCE SPECIFICATIONS** Section C1030.00 "Interior Doors" in its entirety with revised Section C1030.00 "Interior Doors" dated April 5, 2013, included herewith as Attachment 1.8.

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h. **ADD:** Add **PERFORMANCE SPECIFICATIONS** Section G2030.00 "Pedestrian Plazas and Walkways" included herewith as Attachment 1.9.

i. **ADD:** Add **PERFORMANCE SPECIFICATIONS** G2050.00 "Athletic, Recreational and Playfield Areas" included herewith as Attachment 1.10.

j. **ADD:** Add **PERFORMANCE SPECIFICATIONS** G2060.00 "Site Development" included herewith as Attachment 1.11.

k. **ADD:** Add **PERFORMANCE SPECIFICATIONS** 2080.00 "Landscaping" included herewith as Attachment 1.12.

l. **ADD:** Add **PERFORMANCE SPECIFICATIONS** B2080.00 "Exterior Wall Appurtenances" included herewith as Attachment 1.13.

m. **ADD:** Add **PERFORMANCE SPECIFICATIONS** G3000.00 "Liquid and Gas Utilities" included herewith as Attachment 1.14.

6. **Volume 3: Addition of DOE-Approved Documents:**

ADD: Approved NJDOE Room Area Calculations and Fit-out lists, dated February 20, 2013 were inadvertently omitted from the Project Manual, are to be added to the Project Manual and are collectively included in this Addendum as Attachment 1.15.

7. **Volume 3: Addition of Post-Demolition Condition Report:**

ADD: The Post Demolition Condition Report and Environmental Specifications, dated March, 2013, was unavailable at the time of compilation of the Project Manual, and is included in this Addendum as Attachment 1.16.

C. **CHANGES TO THE DRAWINGS:**

1. **REPLACE:** Drawing A-1 First Floor Plan, dated February 25, 2013, with Revised Drawing A-1 First Floor Plan, dated April 17, 2013, issued herewith as Attachment 1.17. All other plans, sections and elevations are modified accordingly by implication.

2. **REPLACE:** Drawing A-2 Second Floor Plan, dated February 25, 2013, with Revised Drawing A-2 Second Floor Plan, dated April 17, 2013, issued herewith as Attachment 1.18. All other plans, sections and elevations are modified accordingly by implication.

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3. **REPLACE:** Drawing A-3 Third Floor Plan, dated February 25, 2013, with Revised Drawing A-3 Third Floor Plan, dated April 17, 2013, issued herewith as Attachment 1.19. All other plans, sections and elevations are modified accordingly by implication.

4. **REPLACE:** Drawing L-1 Landscape Plan, dated February 25, 2013, with Revised Drawing L-1 Landscape Plan, dated April 17, 2013, issued herewith as Attachment 1.20. All other plans, sections and elevations are modified accordingly by implication.

D. BIDDER'S QUESTIONS, REQUESTS FOR INFORMATION AND RESPONSES:

1. **Question:** Please provide Section E "Room Area Calculations and Fit-Out List" which is missing from the Project Manual Volume 3 of 3.

   Answer: See Approved NJDOE Room Area Calculations and Fit-out lists, attached to this Addendum, included herewith as Attachment 1.15.

2. **Question:** Drawing A-7 notes "bullet proof glass see performance specification." Please provide specifications for the glass.

   Answer: Bullet resistive glass Specifications have been included in revised Performance Specification Section C1030.00 "Interior Doors," included herewith as Attachment 1.8.

3. **Question:** Specification section 02030, 02050, 02060, 02080 are noted as to be issued by addendum in the table of contents. Please provide these specification sections.

   Answer: The noted Specification Sections have been added by this Addendum, as Attachments1.9, 1.10, 1.11 and 1.12.

4. **Question:** Detail A/A-5.1 notes Type 3B CMU. The legend does not include Type 3B. Please provide information.

   Answer: There is no masonry Type 3B. All references to Type 3B CMU shall be interpreted to refer to Masonry Type 3A.

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5. **Question:** Has the Jersey City Planning Board performed a courtesy review of the project?

   Answer: No. However, in accordance with DOE regulations, the Schematic Design documents were submitted to the Jersey City Planning Board pursuant to N.J.A.C. 6A:26, and no further action is required.

6. **Question:** Please confirm all testing is by the NJSDA as noted in Section 01410 Testing Laboratory.

   Answer: A response will be provided in a subsequent Addendum.

7. **Question:** Will CAD drawings be provided for the Schematic Design to the Design/Build Team?

   Answer: CAD files may be made available to the successful bidder subject to written acknowledgement by the bidder that the CAD files are provided as a convenience and without warranty as to their completeness, accuracy or fitness for use on this or any Project.

8. **Question:** For scheduling purposes, please provide the anticipated award date.

   Answer: The anticipated award date for this contract is July 18, 2013, but this date is subject to change at the NJSDA's discretion.

9. **Question:** Does this project need to comply with the Jersey City Engineering Department Standards?

   Answer: Yes, See Section PS1030.00 of the Design-Build Performance Specifications, "A.3.c. Comply with all standards of the Jersey City Engineering Department."

10. **Question:** Is an exterior graffiti coating required and if so, to what elevation?

    Answer: See Authority's Materials and Systems Standards Section B2010.20 "Exterior Wall Construction," subsection A ("Wall Construction: General Requirements") at item 13 and subsection O ("Graffiti Control").

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11. **Question:** Please advise the status of any pre-design reviews and approvals by City, County and State Agencies.

Answer: Pursuant to Department of Education regulations, schematic design documents have been submitted to the Department of Education and to Jersey City Public Schools. Submissions were also made to the Jersey City Planning Board and the Hudson County Superintendent of Schools.

12. **Question:** Design/Build Agreement Paragraph 6.11.2 Security states "One (1) security guard to be present at the project site at all times when the Design/Builder is not on site." Please confirm full time off-work hours security is required.

Answer: Confirmed. A security guard must be present at the jobsite during all off-work hours.

13. **Question:** Is the Design/Builder responsible for all Connection Fees (sewer, water, etc.), Permit Fees and user Fees?

Answer: Refer to Design-Build Agreement, Section 3.6.1 regarding the Design Builder's obligations with regard to permit fees and connection fees. By way of clarification, the NJSDA will pay all fees payable to DCA for permits and inspections, but will not pay for other permits.

Furthermore, school projects constructed by SDA are statutorily exempt from all connection, tapping, maintenance or capital improvement fees or charges with respect to connection of a school facility to a state or municipal water or sewerage system, pursuant to N.J.S.A. 52:18A-242 (c), which states: "Notwithstanding the provisions of any law, rule or regulation to the contrary and except as otherwise provided by any federal law, the development authority shall be exempt from all connection, tapping, maintenance or capital improvement fees or charges in respect to each connection of any school project with a water or sewerage system operated by a political subdivision or agency of the State."

Accordingly, the Project shall be exempt from such water and sewer connection fees, as broadly defined in the statute. If any difficulties are encountered in the application of the statutory exemption, the Authority will assist the Design Builder in asserting the exemption against any state or municipal water or sewerage system that attempts to charge such fees. The Design-Builder is responsible for all other costs for any utility connections that are not subject to the above exemption.

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14. **Question:** Section 01010 Summary of Work lists substantial completion as 973 calendar days and final completion as 1061 calendar days. Special Conditions Paragraph A.3 lists different durations; please advise which is correct.

Answer: Appendix A, Special Conditions, Paragraph A.3 has been modified by this Addendum, as noted in Section B, Changes to the Project Manual, Item B.3 above.

15. **Question:** Please provide room area calculations and fit-out lists for the project, as noted in the Educational Specification Section E.

Answer: See Approved NJDOE Room Area Calculations and Fit-out lists, dated February 20, 2013 attached to this Addendum, included herewith as Attachment 1.15, and Response to Question #1 above.

16. **Question:** Please confirm we are to use the forms located on the NJSDA website linked RFP for the Jersey City #3 Design Build Bid #JE-0021-B01 , since some of these forms were not included in the specifications.

Answer: Confirmed. The Technical Proposal Forms have been revised and are updated on the NJSDA website. Bidders are directed to utilize the forms included in NJSDA Design Build Advertisements RFP link for this Project, which is located on the NJSDA Web Site at www.NJSDA.gov. The link is found under the "Advertisements" Tab, in the "Design-Build" category, and is accessible by clicking on the Project Number for this Procurement, and then the "click here for electronic copies" link provided in the body of the Advertisement text.

In addition, for convenience of the bidders, hard copies of all Technical Proposal submission forms are included in this Addendum in a single combined Attachment as Attachment 1.1.

Furthermore, to the extent the question pertains to Project Labor Agreement forms inadvertently omitted from the original Project Manual, the Project Labor Agreement and associated documents and forms are included with this Addendum as Attachment 1.2.

17. **Question:** Are CAD drawing files of the bidding documents available for the bidders use?

Answer: No. CAD files will not be provided during the bidding process, but CAD files may be made available to the successful bidder subject to written acknowledgement by

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the bidder that the CAD files are provided as a convenience and without warranty as to their completeness, accuracy or fitness for use on this or any Project.

18. **Question:** Large amounts of existing on-site concrete slabs have been identified in the documents, but there is no information on existing in-ground foundations, their locations nor quantities. Should this information not be available, please provide direction on how the bidders are to price this project without any information on potential interferences with existing foundations. If such information is available, please provide.

Answer: Upon completion of the Early Site Package Work, known site concrete and debris within the interior of the site will have been removed and disposed off-site. However, several concrete foundations along the perimeter of the site remain intact. Refer to the Post Demolition Condition Report and Environmental Specifications, attached herewith as Attachment 1.16, for additional information related to the known concrete site on-site. Furthermore, while NJSDA has undertaken an intensive program to identify and remove site concrete (and subsurface structures and equipment remnant from historical site operations), it is noted that such remnant materials may be encountered during future activities. The Design-Builder will be responsible for any additional removals to facilitate construction of the site.

19. **Question:** Is there an update to the RAWP?

Answer: No, there is no formal update to the official RAWP, however the Post Demolition Condition Report and Environmental Specifications (included as Attachment 1.16 to this Addendum) provides additional information on environmental conditions at the Site and provides specifications for the environmental work as required by the RAWP.

20. **Question:** If needed, what would the expected extent of fireproofing of the structural bays be adjacent to the fire wall?

Answer: The Design-Builder is responsible for the selection of the structural system, the performance of a complete code analysis of its design, a determination of any required fire proofing, and is responsible for securing all required approvals thereof.

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21. **Question:** Was there a filing on egress with the DCA? If so, is the initial submission available?

Answer: No.

22. **Question:** Does DOE need to approve final drawings? If so, should the DB include the review fee or will the Authority pay?

Answer: Refer to Design-Build Agreement, Section 4.3.2(4). The Design Builder is responsible for securing NJDOE final approval of the educational adequacy of the Project. There is no NJDOE fee for this.

23. **Question:** What is expected of the Design Builder in regards to E-Rate?

Answer: The requirements for E-Rate Program compliance are reflected in Section 3.19 of The Design-Build Agreement.

24. **Question:** There are no plans indicating storm water detention? Will any be provided?

Answer: Design of storm water management systems is the responsibility of the Design Builder.

25. **Question:** There seems to be a deficit of IDF space, should this be accounted for?

Answer: The revised floor plans included as attachments to this Addendum reflect provision of IDF space. See Section C, Changes to the Drawings, Items C.1, C.2 and C.3 and Attachments 1.17, 1.18 and 1.19 listed above.

26. **Question:** Is non-metallic conduit in deck or under deck allowed to be used? Conflicting notes in Section D5000.00 page 5 and Section D5030.10 page 2 Section A. j. Please advise.

Answer: Non-metallic conduit is not allowed to be used in-deck, however, it is allowed to be used below-deck in accordance with the Materials and Systems Standards.

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27. **Question:** Utility Plan C-102 shows the 4" domestic water and 8" fire line both tapping off the 8" water main on Laidlaw? Is this correct? Should one come from the 8" water main on Jefferson?

Answer: This is correct; JCMUA previously stated that the point of connection is only permissible on the 8" pipe in Laidlaw Ave. Refer to the Utility Investigation Report, included in the Design Builder's Information Package, for additional clarification.

28. **Question:** Does Construction Schedule need to be cost-loaded?

Answer: Yes. The Authority will require a cost-loaded schedule, to be prepared in accordance with Specification Section 01310 "Schedules and Reports," Section 3.01 D and 3.02.A.1.b.3.

29. **Question:** Remedial Action Work plan, Page 9, Paragraph 4.1 Concrete Management lists 2 options for Concrete Disposal. Please clarify which option was used during the early Site Package for this project.

Answer: Refer to the Post Demolition Condition Report and Environmental Specifications included herewith as Attachment 1.16 for details regarding Early Site Package work.

30. **Question:** Geotechnical Investigation Report, Page IS Section 5.0 Conclusions & Recommendations Paragraph 5 notes foundations at east and west of the site need to be excavated to bedrock @ 17' on the west and 10' on the east for foundation bearing. Please confirm this information is still accurate and has not been modified by the early site package.

Answer: Refer to the Post Demolition Condition Report and Environmental Specifications included herewith as Attachment 1.16 for details regarding Early Site Package work.

31. **Question:** Drawing C 101 & Page 319 of Volume 3 shows the Bergen Tunnel crossing the East Side of the Building Layout. Please provide the elevation of the top of the Existing Bergen Tunnel.

Answer: Refer to the NJT Vent Shaft As-Built Plans included in the Design-Builder's Information Package.

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32. **Question:** The Scale on Drawing L-I is incorrect. Please provide correct scale.

Answer: The Scale on Drawing L-1 has been revised. See Revised Drawing L-1, included herewith as Attachment 1.20.

33. **Question:** Please provide the complete scope of work performed by the early site package contract for this project.

Answer: Refer to the Post Demolition Condition Report and Environmental Specifications included herewith as Attachment 1.16 for details regarding Early Site Package work.

34. **Question:** Drawing S-1 indicates an existing air shaft on the East Side of the property; is the shaft operational? Please advise if the design/builder needs to incorporate the shaft into the facility design?

Answer: The existing air shaft is no longer operational; refer to the Post Demolition Condition Report and Environmental Specifications included herewith as Attachment 1.16 for information related to the air shaft, which must be accommodated in the Design Builder's final design for the Project.

35. **Question:** Does the project require the preparation and approval of an NJDEP E.O.215 Environmental Assessment?

Answer: No. An EO215 document was previously submitted and approved by DEP.

36. **Question:** Is coordination with State Historic Preservation Office (SHPO) required ?

Answer: No. The EO215 submission includes coordination with the State Historic Preservation Office.

37. **Question:** Is the project intended to be LEED Certifiable or LEED Certified? It is understood from reading the design manual that the project will not be submitted to the USGBC.

Answer: The Design-Builder is required to secure LEED Certification as specified in Paragraph 3.18 of the Design-Build Agreement.

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38. **Question:** The design manual references ASHRAE 2004 standards but the current LEED standard references 2007 standards. Shall we assume the use of 2007 standards to maintain up to date compliance?

Answer: Yes.

39. **Question:** Does this project require off gassing mitigation?

Answer: Reference NJSDA Materials and System Standards, Section A60 "Water and Gas Mitigation," Section A6020, "Off-Gassing Mitigation."

40. **Question:** Can you provide CAD drawings for architectural floor & roof plan?

Answer: No. CAD files will not be provided during the bidding process, but CAD files may be made available to the successful bidder subject to written acknowledgement by the bidder that the CAD files are provided as a convenience and without warranty as to their completeness, accuracy or fitness for use on this or any Project.

41. **Question:** Please provide Room Fit-Out List per Section E in the Educational Specifications. Advise which items are to be supplied by the DB team or items that are Owner Supplied.

Answer: See Approved NJDOE Room Area Calculations and Fit-out lists, included herewith as Attachment 1.15.

42. **Question:** Drawing C-101 and S-1 show Concrete Retaining Walls. Do these walls require any special finish?

Answer: Refer to NJSDA Materials and System Standards, Section G20 "Site Improvements," Section G2060.60 "Retaining Walls," Subsection B.1, specifying smooth finish.

43. **Question:** Vol III, Figure 2 after Remedial Work Action Plan shows the Existing Conditions for the Project before the Early Site Package Contract was done. Please provide the Existing Condition Plan after the Early Site Package Contract was completed.

Answer: The Post-Early Site Package As-Built Survey is included in this Addendum as Attachment 1.21.

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44. **Question:** Please confirm existing Concrete Sidewalks and Curbs are to be demolished.

Answer: Yes, refer to Sheet S-1, for locations for new concrete curbs and sidewalks.

45. **Question:** Should we get approvals from NJ Transit or has SDA already filed a copy of proposed school and obtained approval?

Answer: The Design-Builder is responsible for notifying and coordinating with New Jersey Transit regarding any modifications to the existing Vent Shaft as reflected in the NJT Vent Shaft As-Built Plans included in the Design Build Information Package. Refer to the Post Demolition Condition Report and Environmental Specifications, included as Attachment 1.16 for additional information.

46. **Question:** From a review of Remedial Action Work plan dated March 2012, concrete impacted with PCB is required to be removed and disposed at an off-site facility. Has this been performed by SDA already?

Answer: Refer to the Post Demolition Condition Report and Environmental Specifications included herewith as Attachment 1.16.

47. **Question:** Table 1 Concrete Sampling - Analytical Results, identifies pH of concrete to vary from 9.3 to 13, with 7 out of 18 samples exhibiting pH value of 13. Will this require disposal of concrete as hazardous?

Answer: Hazardous disposal of concrete is not anticipated based on previous findings.

48. **Question:** During the subsurface activities, any cap provided previously is likely to be disturbed. What approvals should DB team get from NJDEP?

Answer: Contractor is responsible for coordination of all environmental work with LSRP per Section IV of the Post Demolition Site Condition Report and Environmental Specifications, included herewith as Attachment 1.16.

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E. CHANGES TO PREVIOUS ADDENDA:

1. Not applicable

F. ATTACHMENTS

1. Attachment 1.1 — Technical Proposal Forms (includes the following):
   1. Design-Builder's Experience on Projects of Similar Size, Cost and/or Complexity
   2. Identification and Qualification of Design-Builder's Key Team Members
   3. Identification of Required Subcontractors
   4. Design-Builder's Design Consultant's Experience on Project of Similar Size, Cost and/or Complexity
   5. Identification and Qualification of Design Consultant's Key Team Members
   6. Design-Builder's Demonstrated Prior Affirmative Action Experience
   7. Design-Builder's Overall Approach to the Project
   8. Design-Builder's Approach to Schedule
   9. Approach to LEED Requirements
   10. LEED for Schools 2009 Project Checklist
   11. Small Business Enterprise Forms "B" and "C"
   12. Technical Proposal Certification.
2. Attachment 1.2 — Attachment 1.20 Project Labor Agreement Documents
   1. Project Labor Agreement
   2. PLA Letter dated November 16, 2009
   3. Contractor Signature Page
   4. Subcontractor Letter of Assent
3. Attachment 1.3 — Revised Section B2050.30 "Exterior Oversized Doors," dated April 5, 2013.
4. Attachment 1.4 — Revised Section B3010.50 "Low Slope Roofing," dated April 5, 2013.
5. Attachment 1.5 — Revised Section C1090.70 "Storage Specialties" dated April 5, 2013.
6. Attachment 1.6 — Revised Section C2000.00 "Interior Finishes" dated April 5, 2013.
7. Attachment 1.7 — Revised Section D6000.00 "Communications" dated April 5, 2013.

1 WEST STATE STREET
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8.	Attachment 1.8	Revised Section C1030.00 "Interior Doors" dated April 5, 2013.
9.	Attachment 1.9	Section G2030.00 "Pedestrian Plazas and Walkways" dated April 5, 2013.
10.	Attachment 1.10	G2050.00 "Athletic, Recreational and Playfield" dated April 5, 2013.
11.	Attachment 1.11	G2060.00 "Site Development" dated April 5, 2013.
12.	Attachment 1.12	G2080.00 "Landscaping" dated April 5, 2013.
13.	Attachment 1.13	B2080.00 "Exterior Wall Appurtenances" dated April 5, 2013.
14.	Attachment 1.14	G3000.00 "Liquid and Gas Utilities" dated April 5, 2013.
15.	Attachment 1.15	Approved NJDOE Room Area Calculations and Fit-out lists, dated February 20, 2013.
16.	Attachment 1.16	Post Demolition Condition Report and Environmental Specifications, dated March, 2013.
17.	Attachment 1.17	Revised Drawing A-1 First Floor Plan, dated April 17, 2013.
18.	Attachment 1.18	Revised Drawing A-2 Second Floor Plan, dated April 17, 2013.
19.	Attachment 1.19	Revised Drawing A-3 Third Floor Plan, dated April 17, 2013.
20.	Attachment 1.20	Revised Drawing L-1 Landscape Plan, dated April 17, 2013.
21.	Attachment 1.21	Sheet C-100 Early Site Package As-Built Survey, dated February 25, 2013.

1 WEST STATE STREET
P.O. BOX 991
TRENTON, NJ 08625-0991
609-943-5955

G. SUPPLEMENTAL INFORMATION

1. FIRMS INTENDING TO BID & PROJECT RATING LIMITS:

Firm	Final Project Limit
Delric Construction Company, Inc.	$49,850,921.
Dobco, Inc.	$77,351,010.
Epic Management, Inc.	$231,312,160.
Ernest Bock & Sons, Inc.	$107,084,530.
Hall Building Corporation	$50,706,431.
Hall Construction Company, Inc.	$131,295,840.
Hessert Corporation	$23,533,489.
Intercontinental Construction Contracting, Inc.	$48,620,000.
Prismatic Development Corporation	$103,600,000.
Terminal Construction Corporation	$212,681,000.

Any bidder attempting to contact government officials (elected or appointed), including NJSDA Board members, NJSDA Staff, and Selection Committee members in an effort to influence the selection process may be immediately disqualified.

End of Addendum No. 1

4/16/2013

NJSDA Director Date

STATE OF NEW JERSEY
SCHOOLS DEVELOPMENT AUTHORITY
1 WEST STATE STREET
P.O. BOX 991
TRENTON, NJ 08625-0991
609-943-5955

Addendum #1

New Jersey Schools Development Authority
Office of Procurement
1 West State Street
Trenton, NJ 08625
Phone: 609-292-8775
Fax: 609-656-4642

Date: **April 17, 2013**

PROJECT #: **JE-0021-B01**
New Elementary School #3

DESCRIPTION: **Addendum # 1**

Addendum No. 1

Acknowledgement of Receipt of Addendum

Contractor hereby acknowledges the receipt of this Addendum by signing in the space provided below and returning via fax to (609-656-4609) or E-mail (mataylor@njsda.gov). Signed acknowledgements must be received prior to the Bid Due Date. Acknowledgement of the Addendum must be made in Section E.6 of the Price Proposal Submission.

_____ _____
Signature Print Name

_____ _____
Company Name Date

BIDDER'S EXPERIENCE

(Submit at least three (3), but no more than six (6). At least two (2) case studies should be public-sector projects. This form should be photocopied as necessary.)

CASE STUDY # _____

PROJECT NAME:	
PROJECT ADDRESS:	
CONTACT NAME & TITLE FOR OWNER'S REPRESENTATIVE:	**CONTACT PHONE NUMBER:**
PROJECT MANAGER:	**PROJECT SUPERINTENDENT:**
PROJECT SAFETY COORDINATOR/INSPECTOR:	**PROJECT QUALITY ASSURANCE/QUALITY CONTROL COORDINATOR OR INSPECTOR:**
PUBLIC SECTOR : ☐	**PRIVATE SECTOR:** ☐
PROJECT COST:	
START DATE:	**END DATE:**

SUBCONTRACTOR INFORMATION (Please provide company name):
PLUMBING:
ELECTRICAL:
HVAC:
STRUCTURAL STEEL:

Describe the effectiveness of project, and the methodology used to measure such effectiveness – on-time delivery, successful completion of project, effective management of costs.:

BIDDER'S EXPERIENCE (cont'd)

SCOPE OF WORK (Describe the project and indicate why this case study is comparable to the project being bid, in terms of cost, size & complexity.):

BIDDER'S KEY TEAM MEMBER RESUME

(This form should be photocopied as necessary)

KEY TEAM MEMBER NAME:

YEARS OF EXPERIENCE (Note minimum years experience required by RFP, if applicable):

YEARS WITH FIRM:

TECHNICAL SPECIALTIES:

PROFESSIONAL HISTORY:

EDUCATION:

PROFESSIONAL REGISTRATIONS & AFFILIATIONS:

REPRESENTATIVE PROJECT EXPERIENCE & QUALIFICATIONS (Describe experience on projects of similar size, cost, complexity and identify role performed on each (i.e. project manager, safety inspector, etc. Note particularly experience working with subcontractors identified for this project.)):

IDENTIFICATION OF REQUIRED SUBCONTRACTORS

LIST ALL REQUIRED/APPLICABLE SUBCONTRACTORS as indicated in section 1.3 of the RFP ("Identification and Prequalification of Members of the Design-Build Team")

PLUMBING BRANCH WORK: (DPMC Classification Plumbing (C030) Required)

_____ DPMC CLASSIFICATION C030

Firm

Design-Builder will Self-Perform: Yes _____ No _____

Additional Plumbing Branch Subcontractor(s): Note DPMC Classification: _____

_____

Firm

Additional Plumbing Branch Subcontractor(s): Note DPMC Classification: _____

_____

Firm

HVAC BRANCH WORK: (DPMC Classification HVAC (C039) Required)

_____ DPMC CLASSIFICATION C039

Firm

Design-Builder will Self-Perform: Yes _____ No _____

Additional HVAC Branch Subcontractor(s): Note DPMC Classification: _____

_____

Firm

Additional HVAC Branch Subcontractor(s): Note DPMC Classification: _____

_____

Firm

IDENTIFICATION OF REQUIRED SUBCONTRACTORS (cont'd)

LIST ALL REQUIRED/APPLICABLE SUBCONTRACTORS as indicated in section 1.3 of the RFP ("Identification and Prequalification of Members of the Design-Build Team")

ELECTRICAL BRANCH WORK: (DPMC Classification Electrical (C047) Required)

_____ DPMC CLASSIFICATION C047_____

Firm

Bidder will Self-Perform: Yes _____ No _____

Additional Electrical Branch Subcontractor(s): Note DPMC Classification: _____

_____

Firm

Additional Electrical Branch Subcontractor(s): Note DPMC Classification: _____

_____

Firm

STRUCTURAL STEEL AND MISCELLANEOUS IRON WORK: (DPMC Classification Structural Steel (C029) Required)

_____ DPMC CLASSIFICATION C029_____

Firm

Bidder will Self-Perform: Yes _____ No _____

Additional Structural Steel Branch Subcontractor(s): Note DPMC Classification: _____

_____

Firm

Additional Structural Steel Branch Subcontractor(s): Note DPMC Classification: _____

_____

Firm

IDENTIFICATION OF REQUIRED SUBCONTRACTORS (cont'd)

LIST ALL REQUIRED/APPLICABLE SUBCONTRACTORS as indicated in section 1.3 of the RFP ("Identification and Prequalification of Members of the Design-Build Team") or in the Bid Advertisement

OTHER TRADE CLASSIFICATIONS NAMED IN BID ADVERTISEMENT

_____ **Note DPMC Classification: _____**

Firm

==========

OTHER TRADE CLASSIFICATIONS NAMED IN BID ADVERTISEMENT

_____ **Note DPMC Classification: _____**

Firm

==========

OTHER TRADE CLASSIFICATIONS NAMED IN BID ADVERTISEMENT

_____ **Note DPMC Classification: _____**

Firm

DESIGN CONSULTANT'S EXPERIENCE

(Submit at least three (3), but no more than six (6). At least two (2) case studies should be public-sector projects. This form should be photocopied as necessary.)

CASE STUDY # _____

PROJECT NAME:	
PROJECT ADDRESS:	
CONTACT NAME & TITLE FOR OWNER'S REPRESENTATIVE:	**CONTACT PHONE NUMBER:**
PROJECT MANAGER:	**PROJECT SUPERINTENDENT:**
PROJECT SAFETY COORDINATOR/INSPECTOR:	**PROJECT QUALITY ASSURANCE/QUALITY CONTROL COORDINATOR OR INSPECTOR:**
PUBLIC SECTOR : ☐	**PRIVATE SECTOR:** ☐
PROJECT COST:	
START DATE:	**END DATE:**

SUBCONTRACTOR/SUBCONSULTANT INFORMATION (Please provide company name):	
PLUMBING:	
ELECTRICAL:	
HVAC:	
STRUCTURAL STEEL:	

Describe the effectiveness of project, and the methodology used to measure such effectiveness – on-time delivery, successful completion of project, effective management of costs.:

DESIGN CONSULTANT'S EXPERIENCE (cont'd)

SCOPE OF WORK (Describe the project and indicate why this case study is comparable to the project being bid, in terms of cost, size & complexity.):

KEY TEAM MEMBER RESUME (Design Consultant)

(This form should be photocopied as necessary)

KEY TEAM MEMBER NAME:

YEARS OF EXPERIENCE (Note minimum years experience required by RFP, if applicable):

YEARS WITH FIRM:

TECHNICAL SPECIALTIES:

PROFESSIONAL HISTORY:

EDUCATION:

PROFESSIONAL REGISTRATIONS & AFFILIATIONS:

REPRESENTATIVE PROJECT EXPERIENCE & QUALIFICATIONS (Describe experience on projects of similar size, cost, complexity and identify role performed on each (i.e. project manager, safety inspector, etc. Note particularly experience working with subcontractors identified for this project.)):

BIDDER'S DEMONSTRATED PRIOR AFFIRMATIVE ACTION EXPERIENCE

EXPLANATION OF EXISTING AFFIRMATIVE ACTION PLAN CONCERNING WORKFORCE AND PROCUREMENT PRACTICES:

DOES YOUR FIRM PERFORM PERIODIC REVIEWS OR SELF-AUDITS OF ITS AFFIRMATIVE ACTION PLAN AND WORKFORCE GOALS?

YES ☐ **NO** ☐

DESCRIBE OR ATTACH CURRENT POLICIES ON NONDISCRIMATION IN EMPLOYMENT AND HIRING, EQUAL EMPLOYMENT OPPORTUNITY FOR VETERANS AND INDIVIDUALS WITH DISABILITIES, AND PREVENTION OF HARASSMENT AND RETALIATION.

APPROACH FOR IMPLEMENTING WORKFORCE GOALS ON THE PROPOSED PROJECT:

BIDDER'S OVERALL APPROACH TO THE PROJECT
Indicate approach and methodology for executing the Project addressing relevant topics as indicated in section 3.4 of the RFP.

BIDDER'S APPROACH TO SCHEDULE

(Bar-chart schedule to be attached)

Bidder must submit (attach to this form) a detailed bar-chart schedule for completion of the project, showing all design phases, the securing of DOE and DCA approvals of plans, as well as tracking major construction activities and milestones including substantial completion, final completion and project closeout.

Describe the bidder's approach and methodology for executing the Project within the milestone dates provided. Address topics relevant to the performance and completion of the project that may include, without limitation, the following: identification of schedule concerns and constraints (e.g., completion of preliminary and final design, permitting issues, potential for phased DCA release, labor and material availability, winter weather conditions) and plan for completion of the project in accordance with the Authority's proposed date for contract completion. Include discussion of plan for maintaining schedule and providing regular schedule updates.

APPROACH TO LEED REQUIREMENTS

(attach LEED checklist)

Describe the bidder's approach to achieving the proposed level of LEED certification. The narrative shall confirm the level of LEED certification (basic, Silver, Gold, or Platinum) the Bidder proposes to be achieved, and discuss the approach to achieving this level of certification (i.e., integration of LEED requirements in design, monitoring compliance through design and construction, process for submission to USGBC for certification, etc.) The completed LEED checklist (form provided) is to be submitted along with this form identifying the specific LEED features which the Bidder proposes to incorporate in the design and construction of the project.

LEED 2009 FOR SCHOOLS NEW CONSTRUCTION AND MAJOR RENOVATIONS PROJECT CHECKLIST

Sustainable Sites		**24 Possible Points**
☑ Prerequisite 1	Construction Activity Pollution Prevention	Required
☑ Prerequisite 2	Environmental Site Assessment	Required
☐ Credit 1	Site Selection	1
☐ Credit 2	Development Density and Community Connectivity	4
☐ Credit 3	Brownfield Redevelopment	1
☐ Credit 4.1	Alternative Transportation—Public Transportation Access	4
☐ Credit 4.2	Alternative Transportation—Bicycle Storage and Changing Rooms	1
☐ Credit 4.3	Alternative Transportation—Low-Emitting and Fuel-Efficient Vehicles	2
☐ Credit 4.4	Alternative Transportation—Parking Capacity	2
☐ Credit 5.1	Site Development—Protect or Restore Habitat	1
☐ Credit 5.2	Site Development—Maximize Open Space	1
☐ Credit 6.1	Stormwater Design—Quantity Control	1
☐ Credit 6.2	Stormwater Design—Quality Control	1
☐ Credit 7.1	Heat Island Effect—Nonroof	1
☐ Credit 7.2	Heat Island Effect—Roof	1
☐ Credit 8	Light Pollution Reduction	1
☐ Credit 9	Site Master Plan	1
☐ Credit 10	Joint Use of Facilities	1
Water Efficiency		**11 Possible Points**
☑ Prerequisite 1	Water Use Reduction	Required
☐ Credit 1	Water Efficient Landscaping	2-4
☐ Credit 2	Innovative Wastewater Technologies	2
☐ Credit 3	Water Use Reduction	2-4
☐ Credit 4	Process Water Use Reduction	1
Energy and Atmosphere		**33 Possible Points**
☑ Prerequisite 1	Fundamental Commissioning of Building Energy Systems	Required
☑ Prerequisite 2	Minimum Energy Performance	Required
☑ Prerequisite 3	Fundamental Refrigerant Management	Required
☐ Credit 1	Optimize Energy Performance	1–19
☐ Credit 2	On-site Renewable Energy	1–7
☐ Credit 3	Enhanced Commissioning	2
☐ Credit 4	Enhanced Refrigerant Management	1
☐ Credit 5	Measurement and Verification	2
☐ Credit 6	Green Power	2
Materials and Resources		**13 Possible Points**
☑ Prerequisite 1	Storage and Collection of Recyclables	Required
☐ Credit 1.1	Building Reuse—Maintain Existing Walls, Floors and Roof	1-2

☐ Credit 1.2	Building Reuse—Maintain Existing Interior Nonstructural Elements	1
☐ Credit 2	Construction Waste Management	1-2
☐ Credit 3	Materials Reuse	1-2
☐ Credit 4	Recycled Content	1-2
☐ Credit 5	Regional Materials	1-2
☐ Credit 6	Rapidly Renewable Materials	1
☐ Credit 7	Certified Wood	1

Indoor Environmental Quality **19 Possible Points**

☑ Prerequisite 1	Minimum Indoor Air Quality Performance	Required
☑ Prerequisite 2	Environmental Tobacco Smoke (ETS) Control	Required
☑ Prerequisite 3	Minimum Acoustical Performance	Required
☐ Credit 1	Outdoor Air Delivery Monitoring	1
☐ Credit 2	Increased Ventilation	1
☐ Credit 3.1	Construction Indoor Air Quality Management Plan—During Construction	1
☐ Credit 3.2	Construction Indoor Air Quality Management Plan—Before Occupancy	1
☐ Credit 4	Low-Emitting Materials	1-4
☐ Credit 5	Indoor Chemical and Pollutant Source Control	1
☐ Credit 6.1	Controllability of Systems—Lighting	1
☐ Credit 6.2	Controllability of Systems—Thermal Comfort	1
☐ Credit 7.1	Thermal Comfort—Design	1
☐ Credit 7.2	Thermal Comfort—Verification	1
☐ Credit 8.1	Daylight and Views—Daylight	1-3
☐ Credit 8.2	Daylight and Views—Views	1
☐ Credit 9	Enhanced Acoustical Performance	1
☐ Credit 10	Mold Prevention	1

Innovation in Design **6 Possible Points**

☐ Credit 1	Innovation in Design	1-4
☐ Credit 2	LEED Accredited Professional	1
☐ Credit 3	The School as a Teaching Tool	1

Regional Priority **4 Possible Points**

☐ Credit 1	Regional Priority	1-4

LEED 2009 for Schools New Construction and Major Renovations

100 base points; 6 possible Innovation in Design and 4 Regional Priority points

Certified	40–49 points
Silver	50–59 points
Gold	60–79 points
Platinum	80 points and above

NEW JERSEY SCHOOLS DEVELOPMENT AUTHORITY
SBE FORM B - SCHEDULE OF SBE PARTICIPATION FOR GOODS & SERVICES VENDORS
NJSDA PROCUREMENT ANALYST: _____

CONTRACT NO: _____ SERVICES: _____ PRIME FED ID NO: _____

CONTRACT AMT: $ _____ STATEWIDE PROCUREMENT: _____ DATE OF AWARD: _____

Name of SBE Sub-contractor vendor	Category (see below)	** MBE	** WBE	Address, Telephone Number & Contact Person	Type of Goods or Services Provided	Subconsultant Amount	Projected		% of Total Contract
							Start Date	End Date	
TOTALS									

CONSULTANT (Print Name) PREPARED BY: (Print Name) VENDOR'S SBE LIAISON (Print Name)

CONSULTANT ADDRESS SIGNATURE & TITLE TELEPHONE (Include Area Code)

EMAIL ADDRESS

NOTE: As the Prime Contractor of this contract you have a responsibility to meet the following SBE goals:
A minimum of 25% (5% Category 1, 5% Category 2, 5 % Category 3 and the remaining 10% to be allocated among Categories 1, 2, and 3).

NJ STATE GOALS:
Category 1: SBE's with gross revenue not exceeding $500,000
Category 2: SBE's with gross revenues exceeding $500,000, but not greater than $5,000,000
Category 3: SBE's with gross revenue exceeding $5,000,000, but not greater than $12,000,000

Pursuant to Executive Order #34, NJSDA is currently monitoring minority/woman-owned participation on all construction and goods and services contracts.
Please note, if any of the named subcontractors are a minority or woman owned firm, as well as an SBE, indicate this where appropriate.
** MBE/WBE **B**: Black **H**: Hispanic **A**: Asian **N**: Native American **W**: Woman ***Identity of race and gender is voluntary and not required**

SBE FORM C - CONFIRMATION OF SBE STATUS and BID PRICE

NJSDA Contract #: _____ **SBE Federal ID #: _____**

I, _____, certify that: _____

I am the_____ of the firm of _____,

located at_____, which is

registered as an SBE firm by the New Jersey Treasury Department, Division of Revenue.

I further warrant that I am authorized by the said firm to make this Certification and will provide the information requested by the New Jersey Schools Development Authority (NJSDA) to document the fact that the said firm is a bona fide SBE.

Goods and Service provider on the above contract to meet the General Contractor or Prime Consultant's NJSDA SBE Goals.

Specifically, my Subcontract Bid Amount is: $_____

I am currently certified as a (please circle all that apply) in the State of New Jersey. SBE MBE WBE

Please indicate ethnicity for MBE _____ Black _____ Hispanic _____Asian _____ American Indian

Race and gender identification is voluntary.

I have attached a copy of my current and valid SBE Registration Certificate issued by the New Jersey Treasury Department, Division of Revenue. If applicable, I have attached the MBE and or the WBE Certification.

Signature	Date	Email Addess

Acknowledgement and Consent
(For General Contractor / Prime Consultant Use)

I, _____, _____

Company Principal or Executive

hereby agree to award to named subcontractor/subconsultant a contract in the above-stipulated amount pursuant to contract terms and conditions.

Signature	Date	Email Address

NOTE: Form C is to be completed by ALL Sub-contractors, Sub-consultants, or Goods and Services Providers to be engaged in the contract and signed by both Parties.

TECHNICAL PROPOSAL CERTIFICATION

I SWEAR AND AFFIRM that all statements and information contained in the Technical Proposal submitted by _____ are true and correct; and all such statements are made with full knowledge that the NJSDA relies upon the truth of the statements contained in the Proposal.

_____
Signature of Principal

_____
Print or Type Name

_____
Title

Sworn and subscribed to before me

this _____ day of _____, 20__.

Notary Public of_____

My commission expires: _____, 20__.

_____
Signature of Notary Public

PROJECT LABOR AGREEMENT

NEW JERSEY SCHOOLS CONSTRUCTION
CORPORATION PROJECTS

February 28, 2003

TABLE OF CONTENTS

NEW JERSEY SCHOOLS CONSTRUCTION CORPORATION

PROJECT LABOR AGREEMENT

ARTICLE 1 - PREAMBLE

WHEREAS, The NEW JERSEY SCHOOLS CONSTRUCTION CORPORATION, on behalf of itself, and Project Management Firms acting as Construction Managers, and reflecting the objectives of the New Jersey Schools Construction Corporation (SCC), as Owner, desires to provide for the efficient, safe, quality, and timely completion of a construction project for the School Construction Program in a manner designed to afford lower reasonable costs to the SCC and the Owner, and the Public it represents, and the advancement of public policy objectives;

WHEREAS, this Project Labor Agreement will foster the achievement of these goals, inter alia by:

(1) ensuring a reliable source of skilled and experienced labor;

(2) standardizing the terms and conditions governing the employment of labor on the Project;

(3) permitting wide flexibility in work scheduling and shift hours and times; from those which otherwise might obtain;

(4) receiving negotiated adjustments as to work rules and staffing requirements from those which otherwise might obtain;

(5) providing comprehensive and standardized mechanisms for the settlement of work disputes, including those relating to jurisdiction;

(6) avoiding the costly delays of potential strikes, slowdowns, walkouts, picketing and other disruptions arising from work disputes, and promote labor harmony and peace for the duration of the Projects.

(7) furthering public policy objectives as to improved employment opportunities for minorities, women and the economically disadvantaged in the construction industry;

(8) expediting the construction process;

and, **WHEREAS,** the signatory Unions desire the stability, security and work opportunities afforded by a Project Labor Agreement;

and **WHEREAS,** the Parties desire to maximize Project safety conditions for both workers and the public,

NOW, THEREFORE, the Parties enter into this Agreement:

SECTION 1. PARTIES TO THE AGREEMENT

This is a Project Labor Agreement ("Agreement") entered into by and between the SCC and its successors and assigns, General Contractors to be named, for certain construction work to be performed on school construction performed pursuant to the "Educational Facilities Construction and Financing Act" in the State of New Jersey and by the New Jersey Building and Construction Trades Council, AFL-CIO, on behalf of itself and its affiliates and members.

ARTICLE 2 - GENERAL CONDITIONS

SECTION 1. DEFINITIONS

Throughout this Agreement, the Union party and the Building Trades Council are referred to singularly and collectively as "the Union(s)" where specific reference is made to "Local Unions" that phrase is sometimes used; the term "Contractor(s)" shall include the Project Management Firm and all signatory contractors, and their subcontractors of whatever tier, engaged in on-site Project construction work within the scope of this Agreement as defined in Article 3; Schools Construction Corporation (SCC) is referenced as (Owner); the New Jersey

Building and Construction Trades Council, AFL-CIO is referenced as the BTC, and the work covered by this Agreement (as defined in Article 3) is referred to as the "Project".

SECTION 2. CONDITIONS FOR AGREEMENT TO BECOME EFFECTIVE

The Agreement shall not become effective unless executed by the BTC, the PMF, and the General Contractor and will remain in effect until the completion of the Program or until 1/1/2010.

SECTION 3. ENTITIES BOUND & ADMINISTRATION OF AGREEMENT

This Agreement shall be binding on all signatory Unions and the Project Management Firms and all signatory Contractors performing on-site Project work, including site preparation and staging areas, as defined in Article 3. The Contractors shall include in any subcontract that they let, for performance during the term of this Agreement, a requirement that their subcontractors, of whatever tier, become signatory and bound by this Agreement with respect to subcontracted work performed within the scope of Article 3. This Agreement shall be administered by the PMF's on behalf of all Contractors.

SECTION 4. SUPREMACY CLAUSE

This Agreement, together with the local Collective Bargaining Agreements appended hereto as Schedule A represents the complete understanding of all signatories and supersedes any national agreement, local agreement or other collective bargaining agreement of any type which would otherwise apply to this Project, in whole or in part. Where a subject covered by the provisions, explicit or implicit, of this Agreement is also covered by a Schedule A, the provisions of this Agreement shall prevail. It is further understood that neither the PMF nor any Contractor shall be required to sign any other agreement as a condition of performing work on this Project. No practice, understanding or agreement between a Contractor and Local Union, which is not explicitly set forth in this Agreement shall be binding on this Project unless endorsed in writing by the PMF.

SECTION 5. LIABILITY

The liability of any Contractor and the liability of any Union under this Agreement shall be several and not joint. The PMF and any Contractor shall not be liable for any violations of this Agreement by any other Contractor and the BTC and Local Unions shall not be liable for any violations of this Agreement by any other Union.

SECTION 6. THE CONSTRUCTION PROJECT MANAGER

The SCC shall require in its bid specifications for all work within the scope of Article 3 that all successful bidders, and their subcontractors of whatever tier, become bound by, and signatory to, this Agreement. The SCC is not a party to and shall not be liable in any manner under this Agreement. It is understood that nothing in this Agreement shall be construed as limiting the sole discretion of the SCC in determining which Contractors shall be awarded contracts for Project work. It is further understood that the SCC has sole discretion at any time to terminate, delay or suspend the work, in whole or part, on this Project.

SECTION 7. AVAILABILITY AND APPLICABILITY TO ALL SUCCESSFUL BIDDERS

The Unions agree that this Agreement will be made available to, and will fully apply to any successful bidder for Project work who becomes signatory thereto, without regard to whether that successful bidder performs work at other sites on either a union or non-union basis and without regard to whether employees of such successful bidder are, or are not, members of any unions. This Agreement shall not apply to the work of any Contractor or PMF, which is performed at any location other than the Project site, as defined in Article 3, Section 1.

ARTICLE 3 - SCOPE OF THE AGREEMENT

The Project work covered by this Agreement shall be as defined and limited by the following sections of this Article.

SECTION 1: THE WORK

This Agreement shall apply to all school construction conducted by NJ Schools Construction Corporation pursuant to the "Educational Facilities and Construction Act" in the State of New Jersey. This scope of work may be amended time to time by the SCC to include work not performed under the "Educational Facilities and Construction Act"

The scope of work is confined to the on-site Project work contained in the scope of the General Contractor's final construction contract.

SECTION 2. EXCLUDED EMPLOYEES

The following persons are not subject to the provisions of this Agreement, even though performing work on the Project:

a. Superintendents, supervisors (excluding superintendents and general supervisors and forepersons specifically covered by a craft's Schedule A), engineers, inspectors and testers (excluding divers specifically covered by a craft's Schedule A), quality control/assurance personnel, timekeepers, mail carriers, clerks, office workers, messengers, guards, non-manual employees, and all professional, engineering, administrative and management persons;

b. Employees of Owner or any State agency, authority or entity or employees of any municipality or other public employer;

c. Employees and entities engaged in off-site manufacture, modifications, repair, maintenance, assembly, painting, handling or fabrication of project components, materials, equipment or machinery, unless such offsite

operations are covered by the New Jersey Prevailing Wage Act by being dedicated exclusively to the performance of the public works contract or building project and are adjacent to the site of work, or involved in deliveries to and from the Project site, excepting local deliveries of all major construction materials including fill, ready mix, asphalt and Item 4 which are covered by this Agreement.

d. Employees of the PMF or General Contractor, excepting those performing manual, on-site construction labor who will be covered by this Agreement;

e. Employees engaged in on-site equipment warranty.

f. Employees engaged in geophysical testing (whether land or water) other than boring for core samples;

g. Employees engaged in laboratory or specialty testing or inspections;

h. Employees engaged in ancillary Project work performed by third parties such as electric utilities, gas utilities, telephone utility companies, and railroads.

SECTION 3. NON-APPLICATION TO CERTAIN ENTITIES

This Agreement shall not apply to the parents, affiliates, subsidiaries, or other joint or sole ventures of any Contractor or of PMF, which do not perform work at this Project. It is agreed, for the purposes of this Agreement only, that this Agreement does not have the effect of creating any joint employment, single employer or alter ego status among the owners, the PMF and/or any Contractor. The Agreement shall further not apply to the Owner or any other state or county agency, authority, or other municipal or public entity and nothing contained herein shall be construed to prohibit or restrict the Owner or its employees of any other state authority, agency or entity and its employees from performing on or off-site work related to the Project. As the contracts which comprise the Project work are completed and accepted, the Agreement shall not have further force or effect on such items or areas except where inspections, additions, repairs, modifications, check-out and/or warranty work are assigned in writing (copy to Local Union involved) by the General Contractor for performance under the terms of this Agreement.

ARTICLE 4 - UNION RECOGNITION AND EMPLOYMENT

SECTION 1. PRE-HIRE RECOGNITION

The Contractors recognize the signatory Unions as the sole and exclusive bargaining representatives of all craft employees who are performing on-site Project work within the scope of this Agreement as defined in Article 3.

SECTION 2. UNION REFERRAL

A. The Contractors agree to hire Project, craft employees covered by this Agreement through the job referral systems and hiring halls (where the referrals meet the qualifications set forth in items 1,2, and 4 subparagraph B) established in the Local Unions' area collective bargaining agreements (attached as Schedule A to this Agreement).

Notwithstanding this, the Contractors shall have sole rights to determine the competency of all referrals; the number of employees required (except with regard to piledriving); the selection of employees to be laid-off (subject to the applicable procedures in Schedule A for permanent and/or temporary layoffs and except as provided in Article 5, Section 3); and the sole right to reject any applicant referred by a Local Union, subject to the show-up payments required in the applicable Schedule A. In the event that a Local Union is unable to fill any request for qualified employees within a 48-hour period after such requisition is made by the Contractor (Saturdays, Sundays, and holidays excepted), the Contractor may employ qualified applicants from another competent source. In the event that the Local Union does not have a job referral system, the Contractor shall give the Local Union first preference to refer applicants, subject to the other provisions of this Article. The Contractor shall notify the Local Union of the Project, craft employees hired within its jurisdiction from any source other than referral by the Union.

B. A Contractor may request by name, and the Local will honor, referral of persons who have applied to the Local for Project work and who meet the following qualifications as determined by a Committee of 3 designated,

respectively, by the applicable Local Union, the PMF and a mutually selected third party or, in the absence of agreement, the permanent arbitrator (or designee) designated in Article 7:

(1) possess any license required by NJ law for the Project work to be performed;

(2) have worked a total of at least 1000 hours in the Construction craft during the prior 3 years;

(3) were on the Contractor's active payroll for at least 60 out of the 180 calendar days prior to the contract award;

(4) have demonstrated ability to safely perform the basic function of the applicable trade.

No more than 12 per centum of the employees covered by this Agreement, per Contractor by craft, shall be hired through the special provisions above (any fraction shall be rounded to the next highest whole number).

C. A certified MBE/WBE contractor may request from the Workforce Coordinator, through the PMF, an exception to, and waiver of, the above per centum limitation upon the number of it's employees to be hired through the special provision of Section2.B above. This exception is based upon hardship and demonstration by the contractor that the Project work would be the contractor's only job and that it would be obliged to lay off qualified minority and female employees in it's current workforce moving from the last job.

The exception and waiver are also conditioned upon the employees meeting the qualifications as set forth in Section 2.B above.

SECTION 3. NON-DISCRIMINATION IN REFERRALS

The Unions represent that their hiring halls and referral systems will be operated in a non-discriminatory manner and in full compliance with all applicable federal, state and local laws and regulations, which require equal employment opportunities. Referrals shall not be affected in any way by the rules, regulations, bylaws, constitutional provisions or any other aspects or obligations of union membership, policies or requirements and shall be subject to such other conditions as are established in this Article. No employment applicant shall be discriminated against by any referral system or hiring hall because of the applicant's union membership, or lack thereof.

SECTION 4. MINORITY AND FEMALE REFERRALS

In the event a Union either fails, or is unable, to refer qualified minority or female applicants in percentages equaling Project affirmative action goals as set forth in the Owners bid specifications, the Contractor may employ qualified minority or female applicants from any other available source as Apprentice Equivalents. Apprentice Equivalents will have completed a DOL approved training program, applied to take a construction Apprenticeship test, and will be paid at not less then the applicable equivalent Apprentice rate. With the approval of the Local Administrative Committee (LAC), experience in construction related areas may be accepted as meeting the above requirements.

SECTION 5. CROSS AND QUALIFIED REFERRALS

The Unions shall not knowingly refer to a Contractor an employee then employed by another Contractor working under this Agreement. The Local Unions will exert their utmost efforts to recruit sufficient numbers of skilled and qualified craft employees to fulfill the requirements of the Contractor.

SECTION 6. UNION DUES / WORKING ASSESMENTS

All employees covered by this Agreement shall be subject to the union security provisions contained in the applicable Schedule A local agreements, as amended from time to

time, but only for the period of time during which they are performing on-site Project work and only to the extent of rendering payment of the applicable union dues and assessments uniformly required for union membership in the Local Union, signatory to this Agreement, which represents the craft in which the employee is performing Project work. No employee shall be discriminated against at the Project site because of the employee's union membership or lack thereof. In the case of unaffiliated employees, the dues payment can be received by the Unions as a working assessment fee.

SECTION 7. CRAFT FOREPERSONS AND GENERAL FOREPERSONS

The selection of craft forepersons and/or general forepersons and the number of forepersons required shall be solely the responsibility of the Contractor except where otherwise provided by specific provisions of an applicable Schedule A. All forepersons shall take orders exclusively from the designated Contractor representatives. Craft foreperson shall be designated as working forepersons at the request of the Contractor, except when an existing local Collective Bargaining Agreement prohibits a foreperson from working when the craftsperson he is leading exceed a specified number.

ARTICLE 5 - UNION REPRESENTATION

SECTION 1. LOCAL UNION REPRESENTATIVE

Each Local Union representing on-site Project employees shall be entitled to designate in writing (copy to General Contractor involved and Project Management Firm) one representative, and the Business Manager, who shall be afforded access to the Project.

SECTION 2. STEWARDS

(a) Each Local Union shall have the right to designate a working journey person as a Steward and an alternate, and shall notify the Contractor and PMF of the identity of the designated Steward (and alternate) prior to the assumption of such duties. Stewards shall not

exercise supervisory functions and will receive the regular rate of pay for their craft classifications. There will be no non-working Stewards on the Project.

(b) In addition to their work as an employee, the Steward shall have the right to receive complaints or grievances and to discuss and assist in their adjustment with the Contractor's appropriate supervisor. Each Steward shall be concerned with the employees of the Steward's Contractor and, if applicable, subcontractors of that Contractor, but not with the employees of any other Contractor. The Contractor will not discriminate against the Steward in the proper performance of Union duties.

(c) The Stewards shall not have the right to determine when overtime shall be worked, or who shall work overtime, except pursuant to a Schedule A provision providing procedures for the equitable distribution of overtime.

SECTION 3. LAYOFF OF A STEWARD

Contractors agree to notify the appropriate Union 24 hours prior to the layoff of a Steward, except in cases of discipline or discharge for just cause. If a Steward is protected against layoff by a Schedule A, such provisions shall be recognized to the extent the Steward possesses the necessary qualifications to perform the work required. In any case in which a Steward is discharged or disciplined for just cause, the Local Union involved shall be notified immediately by the Contractor.

ARTICLE 6 - MANAGEMENT'S RIGHTS

SECTION 1. RESERVATION OF RIGHTS

Except as expressly limited by a specific provision of this Agreement, Contractors retain full and exclusive authority for the management of their Project operations including, but not limited to: the right to direct the work force, including determination as to the number to be hired and the qualifications therefore; the promotion, transfer, layoff of its employees; or the discipline or discharge for just cause of its employees; the assignment and schedule of work; the

promulgation of reasonable Project work rules; and, the requirement, timing and number of employees to be utilized for overtime work. No rules, customs, or practices, which limit or restrict productivity or efficiency of the individual, as determined by the Contractor, GC or PMF, and/or joint working efforts with other employees shall be permitted or observed.

SECTION 2. MATERIALS, METHODS & EQUIPMENT

There shall be no limitations or restriction upon the contractors' choice of materials, techniques, methods, technology or design, or, regardless of source or location, upon the use and installation of equipment, machinery, package units, pre-cast, pre-fabricated, pre-finished, or pre-assembled materials, tool, or other labor-saving devices. Contractors may, without restriction, install or use materials, supplies or equipment regardless of their source. The on-site installation or application of such items shall be performed by the craft having jurisdiction over such work; provided, however, it is recognized that other personnel having special qualifications may participate, in a supervisory capacity, in the installation, check-out or testing of specialized or unusual equipment or facilities as designated by the Contractor. Notwithstanding the foregoing statement of contractor rights, prefabrication issues relating to work traditionally performed at the job site shall be governed pursuant to the terms of the applicable Schedule A. There shall be no restrictions as to work, which is performed off-site for the Project, except for work done in a fabrication center, tool yard, or batch plant dedicated exclusively to the performance of work on the Project, and located adjacent to the "site of work".

ARTICLE 7 - WORK STOPPAGES AND LOCKOUTS

SECTION 1. NO STRIKES-NO LOCKOUT

There shall not be strikes, sympathy strikes, picketing, work stoppages, slowdowns, hand billing, demonstrations or other disruptive activity at the Project for any reason by any Union or employee against any Contractor or employer while performing work at the Project. There shall be no other Union, or concerted or employee activity which disrupts or

interferes with the operation of the existing free flow of traffic in the project area. Failure of any Union or employee to cross any picket line established by any union, signatory or non-signatory

to this Agreement, or the picket or demonstration line of any other organization, at or in proximity to the Project site is a violation of this Article. There shall be no lockout at the Project by any signatory Contractor. Contractors and Unions shall take all steps necessary to ensure compliance with this Section 1 and to ensure uninterrupted construction and the free flow of traffic in the project area for the duration of this Agreement.

SECTION 2. DISCHARGE FOR VIOLATION

A Contractor may discharge any employee violating Section 1, above, and any such employee will not be eligible thereafter for referral under this Agreement for a period of 100 days.

SECTION 3. NOTIFICATION

If a Contractor contends that any Union has violated this Article, it will notify the appropriate district or area council of the Local Union involved advising of such fact, with copies of the notification to the Local Union and the BTC. The district or area council, and the BTC shall each instruct, order and otherwise use their best efforts to cause the employees, and/or the Local Unions to immediately cease and desist from any violation of this Article. A district or area council, or the BTC complying with these obligations shall not be liable for the unauthorized acts of a Local Union or its members.

SECTION 4. EXPEDITED ARBITRATION

Any Contractor or Union alleging a violation of Section 1 of this Article may utilize the expedited procedure set forth below (in lieu of, or in addition to, any actions at law or equity) that may be brought.

a. A party invoking this procedure shall notify J.J. Pierson Jr, Esq., who shall serve as Arbitrator under this expedited arbitration procedure. Copies of such notification will be simultaneously sent to the alleged violator and, if

a Local Union is alleged to be in violation, it's International, the SCC, the PMF, the BTC, and the GC.

b. The Arbitrator shall thereupon, after notice as to time and place to the Contractor, the GC, the Local Union involved, the BTC, and the PMF, hold a hearing within 48 hours of receipt of the notice invoking the procedure it is contended that the violation still exists. The hearing will not, however, be scheduled for less than 24 hours after the notice to the district or area council required by Section 3 above.

c. All notices pursuant to this Article may be by telephone, telegraph, hand delivery, or fax, confirmed by overnight delivery, to the arbitrator, Contractor or Union involved. The hearing may be held on any day including Saturdays or Sundays. The hearing shall be completed in one session, which shall not exceed 8 hours duration (no more than 4 hours being allowed to either side to present their case, and conduct their cross examination) unless otherwise agreed. A failure of any Union or Contractor to attend the hearing shall not delay the hearing of evidence by those present or the issuance of an award by the Arbitrator.

d. The sole issue at the hearing shall be whether a violation of Section 1, above, occurred. If a violation is found to have occurred, the Arbitrator shall issue a Cease and Desist Award restraining such violation and serve copies on the Contractor and Union involved. The Arbitrator shall have no authority to consider any matter in justification, explanation or mitigation of such violation or to award damages, which issue is reserved solely for court proceedings, if any. The Award shall be issued in writing

within 3 hours after the close of the hearing, and may be issued without an Opinion. If any involved party desires an Opinion, one shall be issued within 15 calendar days, but its issuance shall not delay compliance with, or enforcement of, the Award.

e. An Award issued under this procedure may be enforced by any court of competent jurisdiction upon the filing of the Agreement together with the Award. Notice of the filing of such enforcement proceedings shall be given to the Union or Contractor involved. In any court proceeding to obtain a temporary or preliminary order enforcing the arbitrator's Award as issued under this expedited procedure, the involved Union and Contractor waive their right to a hearing and agree that such proceedings may be ex parte, provided notice is given to opposing counsel. Such agreement does not waive any party's right to participate in a hearing for a final court order of enforcement or in any contempt proceeding.

f. Any rights created by statue or law governing arbitration proceedings which are inconsistent with the procedure set forth in this Article, or which interfere with compliance thereto, are hereby waived by the Contractors and Unions to whom they accrue.

g. The fees and expenses of the Arbitrator shall be equally divided between the involved Contractor and Union.

SECTION 5. ARBITRATION OF DISCHARGES FOR VIOLATION

Procedures contained in Article 9 shall not be applicable to any alleged violation of this Article, with the single exception that an employee discharged for violation of Section 1, above, may have recourse to the procedures of Article 9 to determine only if the employee did, in fact, violate the provisions of Section 1 of this Article; but not for the purpose of modifying the discipline imposed where a violation is found to have occurred.

ARTICLE 8. - LOCAL ADMINISTRATIVE COMMITTEE (LAC)

SECTION 1. THE LOCAL ADMINISTRATIVE COMMITTEE WILL MEET ON A REGULAR BASIS TO:

1) Implement and oversee the Agreement procedures and initiatives; 2) monitor the effectiveness of the Agreement; and 3) identify opportunities to improve efficiency and work execution.

SECTION 2. COMPOSITION

The LAC will be co-chaired by the President of the Building and Construction Trades Council or his designee, and designated official of the SCC. It will be comprised of representatives of the local unions signatory to the project labor agreement (PLA) and representatives of the PMF and other contractors on the project.

ARTICLE 9 - GRIEVANCE & ARBITRATION PROCEDURE

SECTION 1. PROCEDURE FOR RESOLUTION OF GRIEVANCES

Any question, dispute or claim arising out of, or involving the interpretation or application of this Agreement (other than jurisdictional disputes or alleged violations of Article 7, Section 1) shall be considered a grievance and shall be resolved pursuant to the exclusive procedure of the steps described below; provided, in all cases, that the question, dispute or claim arose during the term of this Agreement.

Step 1:

(a) When any employee covered by this Agreement feels aggrieved by a claimed violation of this Agreement, the employee shall, through the Local Union business representative or job steward give notice of the claimed violation to the work site representative of the involved Contractor. To be timely, such notice of the grievance must be given within 7 calendar days after the act, occurrence, or event giving rise to the grievance, or after the act, occurrence or event became known or should have become known to the Union. The business representative of the Local Union or the job steward and the work site representative of the involved Contractor shall meet and endeavor to adjust the matter within 7 calendar days after timely notice has been given. If they fail to resolve the matter within the prescribed period, the grieving party, may, within 7 calendar days thereafter, pursue Step 2 of they grievance procedure by serving the involved Contractor and the General Contractor with written copies of the grievance setting forth a description of the claimed violation, the date on which the grievance occurred, the provisions of the Agreement alleged to have been violated. Grievances and disputes settled at Step 1 are non-precedential except as to the specific Local Union, employee and Contractor directly involved, unless the settlement is accepted in writing, by the General Contractor, as creating a precedent.

(b) Should any signatory to this Agreement have a dispute (excepting jurisdictional disputes or alleged violations of Article 7, Section 1) with any other signatory to this Agreement and, if after conferring, a settlement is not reached within 7 calendar days, the dispute shall be reduced to writing and proceed to Step 2 in the same manner as outlined in subparagraph (a) for the adjustment of employee grievances.

Step 2:

The Business Manager or designee of the involved Local Union, together with representatives of the BTC, the involved Contractor, and the General Contractor shall meet in Step 2 within 5 calendar days of the written grievance to arrive at a satisfactory settlement.

Step 3:

(a) If the grievance shall have been submitted but not resolved in Step 2, any of the participating Step 2 entities may, within 14 calendar days after the initial Step 2 meeting, submit the grievance in writing (copies to other participants) to J.J. Pierson Jr., Esq., who shall act as the Arbitrator under this procedure. The Labor Arbitration Rules of the American Arbitration Association shall govern the conduct of the arbitration hearing, at which all Step 2 participants shall be parties. The decision of the Arbitrator shall be final and binding on the involved Contractor, Local Union and employees and the fees and expenses of such arbitration's shall be borne equally by the involved Contractor and Local Union.

(b) Failure of the grieving party to adhere to the time limits set forth in this Article shall render the grievance null and void. These time limits may be extended only by written consent of the PMF, involved Contractor and involved Local Union at the particular step where the extension is agreed upon. The Arbitrator shall have authority to make decisions only on the issues presented to him and shall not have the authority to change, add to, delete or modify any provision of this Agreement.

SECTION 2. LIMITATION AS TO RETROACTIVITY

No arbitration decision or award may provide retroactivity of any kind exceeding 30 calendar days prior to the date of service of the written grievance on the construction Project Manager and the involved Contractor or Local Union.

SECTION 3. PARTICIPATION BY GENERAL CONTRACTOR

The General Contractor shall be notified by the involved Contractor of all actions at Steps 2 and 3 and, at its election, may participate in full in all proceedings at these Steps, including Step 3 arbitration.

ARTICLE 10 - JURISDICTIONAL DISPUTES

SECTION 1. NO DISRUPTIONS

There will be no strikes, sympathy strikes, work stoppages, slowdowns, picketing or other disruptive activity of any kind arising out of any jurisdictional dispute. Pending the resolution of the dispute, the work shall continue uninterrupted and as assigned by the Contractor. No jurisdictional dispute shall excuse a violation of Article 7.

SECTION 2. ASSIGNMENT

A. There shall be a mandatory pre-job markup / assignment meeting prior to the commencement of any work. Attending such meeting shall be designated representatives of the Union signatories to this Agreement, the PMF, and the involved Contractors. Best efforts will be made to schedule the pre-job meeting in a timely manner after Notice to Proceed is issued but not later then 30 days prior to the start of the Project.

B. All Project construction work assignments shall be made by the Contractor according to the area practice.

SECTION 3. PROCEDURE FOR SETTLEMENT OF DISPUTES

A. Any Union having a jurisdictional dispute with respect to Project work assigned to another Union will submit the dispute in writing to the Administrator, Plan for the Settlement of Jurisdictional Disputes in the Construction Industry ("the Plan") within 72 hours and send a copy of the letter to the other Union involved, the Contractor involved, the General Contractor, the BTC, and the district or area councils of the unions involved. Upon receipt of a dispute letter from any union, the Administrator will invoke the procedures set forth in the Plan to resolve the jurisdictional dispute. The jurisdictional dispute letter shall contain the information described in Article IV of the Plan.

B. Within 5 calendar days of receipt of the dispute letter, there shall be meeting of the General Contractor, the Contractor involved, the Local Unions involved and designees of the BTC and the district or area councils of the Local Unions involved for the purpose of resolving the jurisdictional dispute.

C. In order to expedite the resolution of jurisdictional disputes, the parties Have agreed in advance to select Plan Arbitrator J.J. Pierson to hear all unsolved jurisdictional disputes arising under this Agreement. All other rules and procedures of the Plan shall be followed. If Plan Arbitrator Pierson is not available to hear the dispute within the time limits of the Plan, the Plan's arbitrator selection process shall be utilized to select another arbitrator. In the event that a union involved in the dispute is not a member of the Building and Construction Trades, the dispute shall be submitted directly to Arbitrator Pierson.

D. The Arbitrator will render a short-form decision within 5 days of the hearing based upon the evidence submitted at the hearing, with a written decision to follow within 30 days of the close of hearing.

E. This Jurisdictional Dispute Resolution Procedure will only apply to work Performed by Local Unions at the Project.

E. Any Local Union involved in a jurisdictional dispute on this Project shall continue working in accordance with Section 2 above and without disruption of any kind.

SECTION 4. AWARD

Any jurisdictional award pursuant to Section 3 shall be final and binding on the disputing Local Unions and the involved Contractor on this Project only, and may be enforced in any court of competent jurisdiction. Such award or resolution shall not establish a precedent on any other construction work not covered by this Agreement. In all disputes under this Article, the General Contractor and the involved Contractors shall be considered parties in interest.

SECTION 5. LIMITATIONS

The Jurisdictional Dispute Arbitrator shall have no authority to assign work to a double crew, that is, to more employees than the minimum required by the Contractor to perform the work involved; nor to assign work to employees who are not qualified to perform the work involved; not to assign work being performed by non-union employees to union employees. This does not prohibit the establishment, with the agreement of the involved Contractor, of composite crews where more than 1 employee is needed for the job. The aforesaid determinations shall decide only to whom the disputed work belongs.

SECTION 6. NO INTERFERENCE WITH WORK

There shall be no interference or interruption of any kind with the work of the Project while any jurisdictional dispute is being resolved. The work shall proceed as assigned by the Contractor until finally resolved under the applicable procedure of this Article. The award shall be confirmed in writing to the involved parties. There shall be no strike, work stoppage or interruption in protest of any such award.

ARTICLE 11 - WAGES AND BENEFITS

SECTION 1. CLASSIFICATION AND BASE HOURLY RATE

All employees covered by this Agreement shall be classified in accordance with the work performed and paid the base hourly wage rates for those classifications as specified in the attached Schedules A, as amended during this Agreement. Recognizing, however, that special conditions may exist or occur on the Project, the parties, by mutual agreement may establish rates and/or hours for one or more classifications, which may differ from Schedules A. Parties to such agreements shall be the General Contractor, the Contractor involved, the involved Local Unions and the BTC.

SECTION 2. EMPLOYEE BENEFIT FUNDS

A. The Contractors agree to pay contributions on behalf of all employees covered by this Agreement to the established employee benefit funds in the amounts designated in the appropriate Schedule A; provided, however, that the Contractor and the Union agree that only such bona fide employee benefits as are explicitly required under NJ Sat. § 34:11-56.30 of the New Jersey State Labor Law shall be included in this requirement and paid by the Contractor on this Project. Bona fide jointly trusted fringe benefit plans established or negotiated through collective bargaining during the life of this Agreement may be added if similarly protected under NJ Stat. § 34:11-56-30. Contractors shall not be required to contribute to non-NJ Stat. § 34:11-56.30 benefits, trusts or plans.

B. The Contractor agrees to be bound by the written terms of the legally established Trust Agreements specifying the detailed basis on which payments are to bepaid into, and benefits paid out of, such Trust Funds but only with regard to work done on this Project and only for those employees to whom this Agreement requires such benefit Payments.

C. Should any contractor or sub-contractor become delinquent in the payment of contributions to the fringe benefit funds, then the subcontractor at the next higher tier, or upon notice of the delinquency claim from the Union or the Funds, agrees to withhold from the subcontractor such disputed amount from the next advance, or installment payment for work performed until the dispute has been resolved.

ARTICLE 12 - HOURS OF WORK, PREMIUM PAYMENTS, SHIFTS AND HOLIDAYS

SECTION 1. WORK WEEK AND WORK DAY

A. The standard work week shall consist of 40 hours of work at straight time rates per one of the following schedules:

1) Five-Day Work Week: Monday-Friday, 5 days, 8 hours plus 1/2 hour unpaid lunch period each day.

2) Four-Day Work Week: Monday-Thursday; 4 days, 10 hours plus ½ hour unpaid lunch period each day.

B. The Day Shift shall commence between the hours of 6:00 a.m. and 9:00 a.m. and shall end between the hours of 2:30 p.m. and 7:30 p.m. Starting and quitting times shall occur at the employees' place of work as may be designated by the Contractor.

C. Scheduling - The Contractor shall have the option of scheduling either a five-day work week, or four-day work week (when mutually agreed upon on a craft-by-craft basis). The Contractor shall also has the option to set the work day hours consistent with Project requirements, the Project schedule, and minimization of interference with school operations traffic flow. When conditions beyond the control of the Contractor, such as severe weather, power failure, fire or natural disaster, prevent the performance of Project work on a regularly scheduled work day, the Contractor may, with mutual agreement of the Local Union on a craft-by-craft basis, schedule Friday (where on 4, 10's) during the calendar week in which a workday was lost, at straight time pay; providing the employees involved work a total of 40 hours or less during that work week.

D. Notice - Contractors shall provide not less than 5 days prior notice to the Local Union involved as to the work week and work hours schedules to be worked or such lesser notice as may be mutually agreed upon.

SECTION 2. OVERTIME

Overtime pay for hours outside of the standard work week and work day, described in paragraph A above, shall be paid in accordance with the applicable Schedule A. There will be no restriction upon the Contractor's scheduling of overtime or the non-discriminatory designation of employees who shall be worked, except as noted in Article 5, Section 2. There shall be no pyramiding of overtime pay under any circumstances. The Contractor shall have the right to schedule work so as to minimize overtime.

SECTION 3. SHIFTS

A. Flexible Schedules - Scheduling of shift work shall remain flexible in order to meet Project schedules and existing Project conditions including the minimization of interference with school operations. It is not necessary to work a day shift in order to schedule a second shift. Shifts must be worked a minimum of five consecutive work days, must have prior approval of the Construction Project Manager and must be scheduled with not less than five work days notice to the Local Union.

B. Second/Shift - The second shift (starting between 2 p.m. and 8p.m.) shall consist of 8 hours work (or 10 hours of work) for an equal number of hours pay at the straight time rate plus 15% in lieu of overtime and exclusive of a 1/2 hour unpaid lunch period.

C. Flexible Starting Times – Shift starting times will be adjusted by the Contractor as necessary to fulfill Project requirements subject to the notice requirements of Paragraph A.

D. Four Tens - When working a four-day work week, the standard work day shall consist of 10 hours work for 10 hours of pay at the straight time rate exclusive of an unpaid 1/2 hour meal period and regardless of the starting time. This provision is applicable to night shifts only, and such night shifts are subject to the shift differential in paragraph B above.

E. It is agreed that when project circumstances require a deviation form the above shifts, the involved unions, contractors and the General Contractor shall adjust the starting times of the above shifts or establish shifts which meet the project requirements. It is agreed that neither party will unreasonably withhold their agreement.

SECTION 4. HOLIDAYS

A. Schedule - There shall be 8 recognized holidays on the Project:

New Years Day	Labor Day
Presidents Day	Veterans Day
Memorial Day	Thanksgiving Day
Fourth of July	Christmas Day

*Work shall be scheduled on Good Friday pursuant to the craft's Schedule A.

All said holidays shall be observed on the dates designated by New Jersey State Law. In the absence of such designations, they shall be observed on the calendar date except those holidays which occur on Sunday shall be observed on the following Monday. Holidays falling on Saturday are to be observed on the preceding Friday.

B. Payment - Regular holiday pay, if any, and/or premium pay for work performed on such a recognized holiday shall be in accordance with the applicable Schedule A.

B. Exclusivity - No holidays other than those listed in Section 4-A above shall be recognized nor observed except in Presidential Election years when Election Day is a recognized holiday.

SECTION 5. REPORTING PAY

A. Employees who report to the work location pursuant to regular schedule and who are not provided with work or whose work is terminated early by a Contractor, for whatever reason, shall receive minimum reporting pay in accordance with the applicable Schedule A.

B. When an employee, who has completed their scheduled shift and left The Project site, is "called back" to perform special work of a casual, incidental or irregular nature, the employee shall receive pay for actual hours worked with a minimum guarantee, as may be required by the applicable Schedule A.

C. When an employee leaves the job or work location of their own volition or is discharged for cause or is not working as a result of the Contractor's invocation of Section 7 below, they shall be paid only for the actual time worked.

D. Except as specifically set forth in this Article there shall be no premiums, bonuses, hazardous duty, high time or other special payments of any kind.

E. There shall be no pay for time not actually worked except as specifically set forth in this Agreement and except where an applicable Schedule A requires a full weeks pay for forepersons.

SECTION 6. PAYMENT OF WAGES

A. Payday - Payment shall be made by check, drawn on a New Jersey bank with branches located within commuting distance of the job site. Paychecks shall be issued by the Contractor at the job site by 10 a.m. on Thursdays. In the event that the following Friday is a bank holiday, paychecks shall be issued on Wednesday of that week. Not more than 3 days wages shall be held back in any pay period. Paycheck stubs shall contain the name and business address of the Contractor, together with an itemization of deductions from gross wages.

B. Termination-Employees who are laid-off or discharged for cause shall be paid in full for that which is due them at the time of termination. The Contractors shall also provide the employee with a written statement setting forth the date of lay off or discharge.

SECTION 7. EMERGENCY WORK SUSPENSION

A Contractor or PMF may, if considered necessary for the protection of life and /or safety of employees or others, suspend all or a portion of Project Work. In such instances, employees will be paid for actual time worked; provided, however, that when a Contractor request that employees remain at the job site available for work, employees will be paid for "stand-by" time at their hourly rate of pay.

SECTION 8. INJURY/DISABILITY

An employee who, after commencing work, suffers a work-related injury or disability while performing work duties, shall received no less than 8 hours wages for that day. Further, the employee shall be rehired at such time as able to return to duties provided there is still work available on the Project for which the employee is qualified and able to perform.

SECTION 9. TIME KEEPING

A Contractor may utilize brassing or other systems to check employees in and out. Each employee must check in and out. The Contractor will provide adequate facilities for checking in and out in an expeditious manner.

SECTION 10. MEAL PERIOD

A Contractor shall schedule an unpaid period of not more than 1/2 hour duration at the work location between the 3rd and 5th hour of the scheduled shift. A Contractor may, for efficiency of operation, establish a schedule which coordinates the meal periods of two or more crafts. If an employee is required to work through the meal period, the employee shall be compensated in a manner established in the applicable Schedule A.

SECTION 11. BREAK PERIODS

There will be not rest periods, organized coffee breaks or other non-working time established during working hours. Individual coffee containers will be permitted at the employee's work location. Local area practice will prevail for coffee breaks that are not organized.

ARTICLE 13 - APPRENTICES

SECTION 1. RATIOS

Recognizing the need to maintain continuing supportive programs designed to develop adequate numbers of competent workers in the construction industry and to provide craft entry opportunities for minorities, women and economically disadvantaged non-minority males, Contractors will employ apprentices in their respective crafts to perform such work as is within their capabilities and which is customarily performed by the craft in which they are indentured. Contractors may utilize apprentices and such other appropriate classifications as are contained in the applicable Schedule A in a ratio not to exceed 25% of the work force by craft (without regard to whether a lesser ratio is set forth in Schedule A), unless the applicable Schedules A provide for a higher percentage. Apprentices and such other classifications as are appropriate shall be employed in a manner consistent with the provisions of the appropriate Schedule A.

SECTION 2. DEPARTMENT OF LABOR

To assist the Contractors in attaining a maximum effort on this Project, the Unions agree to work in close cooperation with, and accept monitoring by, the New Jersey State and Federal Departments of Labor to ensure that minorities, women, or economically disadvantaged are afforded opportunities to participate in apprenticeship programs which result in the placement of apprentices on this Project. To further ensure that this Contractor effort is

attained, up to 50% of the apprentices placed on this Project should be first year, minority, women or economically disadvantaged apprentices. The Local Unions will cooperate with Contractor request for minority, women or economically disadvantaged referrals to meet this Contractor effort.

ARTICLE 14 - SAFETY PROTECTION OF PERSON AND PROPERTY

SECTION 1. SAFETY REQUIREMENTS

Each Contractor will ensure that applicable OSHA requirements and other requirements set forth in the contract documents are at all times maintained on the Project and the employees and Unions agree to cooperate fully with these efforts. Employees must perform their work at all times in a safe manner and protect themselves and the property of the Contractor and the Owner from injury or harm. Failure to do so will be grounds for discipline, including discharge.

SECTION 2. CONTRACTOR RULES

Employees covered by this Agreement shall at all times be bound by the reasonable safety, security, and visitor rules as established by the Contractors and the PMF for this Project. Such rules will be published and posted in conspicuous places throughout the Project.

SECTION 3. INSPECTIONS

The Contractors and PMF retain the right to inspect incoming shipments of equipment, apparatus, machinery and construction materials of every kind.

ARTICLE 15 - NO DISCRIMINATION

SECTION 1. COOPERATIVE EFFORTS

The Contractors and Unions agree that they will not discriminate against any employee or applicant for employment because of race, color, religion, sex, national origin or age in any manner prohibited by law or regulation. It is recognized that special procedures maybe established by Contractors and Local Unions and the New Jersey State Department of Labor for the training and employment of persons who have not previously qualified to be employed on construction projects of the type covered by this Agreement. The parties to this Agreement will assist in such programs and agree to use their best efforts to ensure that the goals for female and minority employment are met on this Project.

SECTION 2. LANGUAGE OF AGREEMENT

The use of the masculine or feminine gender in this Agreement shall be construed as including both genders.

ARTICLE 16 - GENERAL TERMS

SECTION 1. PROJECT RULES

The Project Management Firm and the Contractors shall establish such reasonable Project rules as are appropriate for the good order of the Project, provided they do not violate the terms of this agreement. These rules will be explained at the pre-job conference and posted at the Project site and may be amended thereafter as necessary. Failure of an employee to observe these rules and regulations shall be grounds for discipline, including discharge. The fact that no order was posted prohibiting a certain type of misconduct shall not be a defense to an employee disciplined or discharged for such misconduct when the action taken is for cause.

SECTION 2. TOOLS OF THE TRADES

The welding/cutting torch and chain fall, are tools of the trade having jurisdiction over the work performed. Employees using these tools shall perform any of the work of the trade. There shall be no restrictions on the emergency use of any tools or equipment by any qualified employee or on the use of any tools or equipment for the performance of work within the employee's jurisdiction.

SECTION 3. SUPERVISION

Employees shall work under the supervision of the craft foreperson or general foreperson.

SECTION 4. TRAVEL ALLOWANCES

There shall be no payments for travel expenses, travel time, subsistence allowance or other such reimbursements or special pay except as expressly set forth in this Agreement and in Schedule A limited to travel expenses.

SECTION 5. FULL WORK DAY

Employees shall be at their staging area at the starting time established by the Contractor and shall be returned to their staging area by quitting time after performing their assigned functions under the supervision of the Contractor. The signatories reaffirm their policy of a fair day's work for a fair day's wage.

SECTION 6. COOPERATION

The Project Management Firm and the Unions will cooperate in seeking any NJS Department of Labor approvals that may be required for implementation of any terms of this Agreement.

ARTICLE 17 - SAVINGS AND SEPARABILITY

SECTION 1. THIS AGREEMENT

In the event that the application of any provision of this Agreement is enjoined, on either an interlocutory or permanent basis, or otherwise found in violation of law, the provision involved shall be rendered, temporarily or permanently, null and void but the remainder of the Agreement shall remain in full force and effect. In such event, the Agreement shall remain in effect for contracts already bid and awarded or in construction where the

Contractor voluntarily accepts the Agreement. The parties to this Agreement will enter into negotiations for a substitute provision in conformity with the law and the intent of the parties for contracts to be let in the future.

SECTION 2. THE BID SPECIFICATIONS

In the event that the General Contractor's bid specifications, or other action, requiring that a successful bidder become signatory to this Agreement is enjoined, on either an interlocutory or permanent basis, or otherwise found in violation of law such requirement shall be rendered, temporarily or permanently, null and void but the Agreement shall remain in full force and effect to the extent allowed by law. In such event, the Agreement shall remain in effect for contracts already bid and awarded or in constructions where the Contractor voluntarily accepts the Agreement. The parties will enter in to negotiations as to modifications to the Agreement to reflect the court action taken and the intent of the parties for contracts to be let in the future.

SECTION 3. NON-LIABILITY

In the event of an occurrence referenced in Section 1 or Section 2 of this Article, neither the Owner, the Project Management Firm, or any Contractor, or any signatory Union shall be liable, directly or indirectly, for any action taken, or not taken, to comply with any court

order, injunction or determination. Project bid specifications will be issued in conformance with court orders in effect and no retroactive payments or other action will be required if the original court determination is ultimately reversed.

SECTION 4. NON-WAIVER

Nothing in this Article shall be construed as waiving the prohibitions of Article 7 as to signatory Contractors and signatory Unions.

ARTICLE 18 - FUTURE CHANGES IN SCHEDULE A AREA CONTRACTS

SECTION 1. CHANGES TO AREA CONTRACTS

A. Schedules A to this Agreement shall continue to full force and effect until the Contractor and/or Union parties to the Area Collective Bargaining Agreements which are the basis for Schedules A notify the General Contractor in writing of the mutually agreed upon changes in provisions of such agreements which are applicable to the Project, and their effective dates.

B. It is agreed that any provisions negotiated into Schedules A collective bargaining agreements will not apply to work on this Project if such provisions are less favorable to this Project than those uniformly required of contractors for construction work normally covered by those agreements; nor shall any provisions be recognized or applied on this Project if it may be construed to apply exclusively, or predominantly, to work covered by this Project Agreement.

C. Any disagreement between signatories to this Agreement over the incorporation into Schedules "A" of provisions agreed upon in the renegotiations of Area Collective Bargaining Agreements shall be resolved in accordance with the procedure set forth in Article 9 of this Agreement.

SECTION 2. LABOR DISPUTES DURING AREA CONTRACT NEGOTIATIONS

The Unions agree that there will be no strikes, work stoppages, sympathy actions, picketing, slowdowns or other disruptive activity or other violations of Article 7 affecting the Project by any Local Union involved in the renegotiations of Area Local Collective Bargaining Agreements nor shall there by any lock-out on the Project affective a Local Union during the course of such renegotiations.

IN WITNESS WHEREOF the parties have caused this Agreement to be executed and effective as of the 28th day of FEBRUARY, 2003.

NJ SCHOOLS CONSTRUCTION CORPORATION

Gerald T. Murphy
Managing Director - Policy and Communications

NJ BUILDING & CONSTRUCTION TRADES COUNCIL

William T. Mullen, President
NJ State Building & Construction Trades Council

Kenneth Campbell, Vice President
Operating Engineers

David Critchley, Vice President
Roofers

Brian J. Kelly, Vice President
Elevator Constructors

Morris Rubino, Vice President
Iron Workers

Louis A. Giammarino ON BEHALF OF John Hibbs
John Hibbs, Vice President
Laborers

Louis Gallo, Vice President
Plasterers

Jerry DellaSalla, Vice President
Bricklayers & Allied Crafts

Joseph Egan, Vice President
Electrical Workers

Thomas Stapleton, Vice President
Sheet Metal Workers

Patrick Brennan, Vice President
Painters

Michael Cantwell, Vice President
Pipe Trades

On Behalf of Ray Cushing
Raymond Cushing, Vice President
Boilermakers

Frank Oliver, Vice President
Asbestos Workers

in place of
Frank Spencer, Vice President
Carpenters

LETTER OF ASSENT

NJSCC PROJECT LABOR AGREEMENT

The undersigned, as a Contractor(s) or Subcontractor(s) on a Contract which is part of the _____Package , for and in consideration of the award of a Contract to perform work on said Project, and in further consideration of the mutual promises made in the Project Labor Agreement, a copy of which was received and is acknowledged, hereby:

(1) On behalf of itself and all its employees, accepts and agrees to be bound by terms and conditions of the Project Labor Agreement, together with any and all amendments and supplements now existing or which are later made thereto, and understands that any act of non-compliance with all such terms and conditions, including but not limited to, evidence of compliance with the pre-employment controlled substance testing, will subject the non-complying Contractor or employee(s) to being prohibited from the Project Site until full compliance is obtained.

(2) Certified that it has no commitments or agreements, which would preclude its full compliance with the terms and conditions of said Project Labor Agreement.

(3) Agrees to secure from any Contractor(s) (as defined in said Project Labor Agreement) which is or becomes a Subcontractor(s) (of any tier), a duly executed Letter of Assent in form identical to this document prior to commencement of any work.

Dated: _____

_____
Name of Contractor/Company

_____
Signature of Authorized Representative

_____
Print Name and Title

_____
General Contractor

_____
Contract Number

IN WITNESS WHEREOF,

The parties have caused this Agreement to be binding and in effect on all project work, (as defined in Article 3, Section 1 of this Agreement, and General Contractor's Scope of Work attached), to be performed on the _____ package on behalf of the New Jersey Schools Construction Corporation.

Project Management Firm
(As administrator)

_____

_____
Name and Title

_____
Signature

General Contractor:

_____

_____
Name and Title

_____
Signature

Signed on this day _____, 2003

STATE OF NEW JERSEY
SCHOOLS DEVELOPMENT AUTHORITY

1 WEST STATE STREET
P.O. BOX 991
TRENTON, NJ 08625-0991
609-943-5955

Sent via facsimile 732-499-0150
and hard copy

November 16, 2009

William Mullen, President
NJ State Building and Construction Trades Council AFL-CIO
77 Brant Avenue
Clark, NJ 07066

Re: Project Labor Agreement, New Jersey Schools Development Authority Projects

Dear Mr. Mullen,

In August 2009, you, on behalf of various signatory Unions and the New Jersey Building and Construction Trades Council, AFL-CIO, asked for a clarification to the language of the February 28, 2003 Project Labor Agreement ("PLA") entered into between the New Jersey Schools Construction Corporation (predecessor to the NJSDA), various signatory Unions and the New Jersey Building and Construction Trades Council, AFL-CIO.

At the time of your request, SDA indicated that it was, and continues to be, the understanding of the parties to the PLA that Section 2 of the PLA, which indicates that the PLA will "remain in effect until the completion of the Program or until 1/1/2010" is intended to mean that the PLA will remain in effect until the later of those two occurrences, i.e. until the completion of the NJSDA's School Facility Construction Program. In order to formalize this understanding, I ask that a representative of each of the signatory Unions listed on the attached execute the attached listing indicating that their understanding comports with this letter. Please note that the attached may be executed in counterparts.

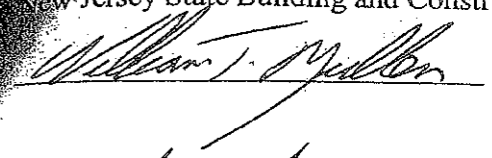
Very truly yours,

Gerald T. Murphy
Vice President and Chief Operating Officer,
New Jersey Schools Development Authority

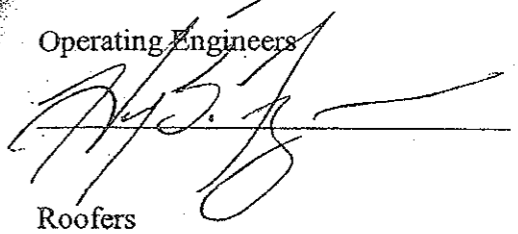
GTM:ch

Cc: Kris Kolluri, NJSDA Chief Executive Officer
Janesa Urbano, NJSDA Chief Counsel
E. Tracie Long, NJSDA Labor Workforce Manager

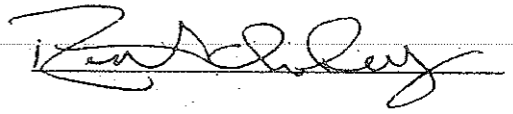
New Jersey State Building and Construction Trades Council



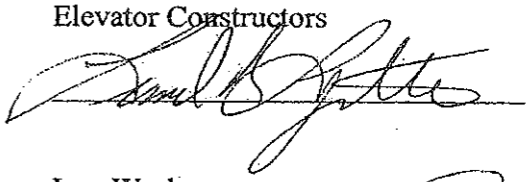
Operating Engineers



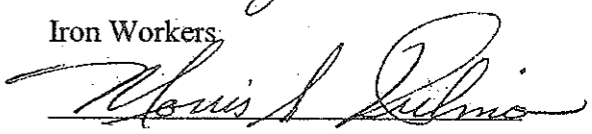
Roofers



Elevator Constructors

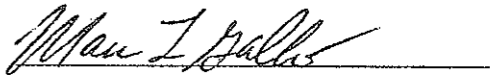


Iron Workers

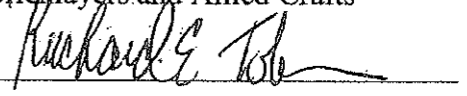


Laborers

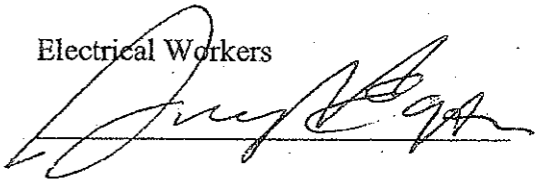
Plasterers



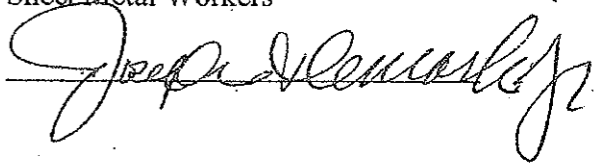
Bricklayers and Allied Crafts



Electrical Workers



Sheet Metal Workers



Painters

Pipe Trades

Boilermakers

Asbestos Workers

Carpenters

IN WITNESS WHEREOF,

The parties have caused this Agreement to be binding and in effect on all project work, (as defined in Article 3, Section 1 of this Agreement, and General Contractor's Scope of Work attached), to be performed on the _____ package on behalf of the New Jersey Schools Construction Corporation.

Project Management Firm
(As administrator)

_____

_____
Name and Title

_____
Signature

General Contractor:

_____

_____
Name and Title

_____
Signature

Signed on this day _____, 2003

LETTER OF ASSENT

NJSDA PROJECT LABOR AGREEMENT

The undersigned, as a Contractor(s) or Subcontractor(s) on a Contract which is part of the _____Package, for and in consideration of the award of a Contract to perform work on said Project, and in further consideration of the mutual promises made in the Project Labor Agreement, a copy of which was received and is acknowledged, hereby:

(1) On behalf of itself and all its employees, accepts and agrees to be bound by terms and conditions of the Project Labor agreement, together with any and all amendments and supplements now existing or which are later made thereto, and understands that any act of non-compliance with all such terms and conditions, including but not limited to, evidence of compliance with the pre-employment controlled substance testing, will subject the non-complying Contractor or employee(s) to being prohibited from the Project Site until full compliance is obtained.

(2) Certified that it has no commitments or agreements, which would preclude its full compliance with the terms and conditions of said Project Labor Agreement.

(3) Agrees to secure from any Contractor(s) (as defined in said Project Labor Agreement) which is or becomes a Subcontractor(s) (of any tier), a duly executed Letter of Assent in form identical to this document prior to commencement of any work.

Dated: _____ _____

Name of Contractor/Company

_____

Signature of Authorized Representative

_____

Print Name and Title

_____ _____

General Contractor Contract Number

SECTION B2050.30

EXTERIOR OVERSIZE DOORS

PERFORMANCE

A. Basic Function

1. Secure oversize openings in the exterior wall as indicated to permit and control service access to the building.

~~*a. Provide electrically operated insulated steel overhead coiling doors where indicated at loading dock and storage shed.*~~

b. Provide oversize flush structural steel doors where indicated at transformer enclosure.

2. The elements comprising exterior oversize doors include door components that form or complete the openings, unless an integral part of another element.

3. Where exterior oversize door elements also must function as elements defined within another element group, meet requirements of both element groups.

4. Brand Names: Where brand names are listed, they represent the Basis of Design unless those items are identified as approved proprietary items in project requirements.

B. Amenity and Comfort

~~*1. Overhead Coiling Doors*~~

~~*a. Thermal Performance: R-value minimum 14.86 and in accordance with codes and referenced standards.*~~

~~*b. Air Infiltration: Maximum of .08 cfm/ft^2 at 25 mph.*~~

~~*c. Water Penetration: Door openings are exempt from water penetration requirements of Section B and B20.*~~

~~*d. Convenience and Accessibility*~~

~~*(1) Mode of Operation: Electrically operated, with exterior card operation integral with security system where indicated.*~~

2. Oversize structural steel doors: Provide ~~*uninsulated,*~~ manually operated doors.

3. Appearance: Provide manufacturer's standard factory-applied baked-on polyester finish in custom color(s) as indicated.

C. Health and Safety

1. Emergency Egress

a. Do not use oversize doors to satisfy egress requirements.

2. Fire Resistance

a. Doors required by code to be fire resistive: Fire resistance rating as required by code, for fire resistance rating of exterior wall in which doors occur, tested in accordance with a method acceptable to local authorities.

3. Physical Security

   a. Provide locking mechanism designed to maintain building security and prevent unauthorized access from exterior.

   b. For doors not requiring access from the exterior, provide no exposed exterior hardware.

   c. Provide code-compliant factory preparation for all security and alarm components, including wiring, in exterior oversize doors, frames and hardware.

D. Structure

1. Lintels: Constructed to span door openings and support loads imposed by exterior wall with maximum deflection vertically and horizontally of 1/240 of span.

2. Door frames: Constructed to span door opening with maximum deflection vertically and horizontally of 1/240 of span.

E. Durability

1. Water penetration: Construct openings and components of openings to positively drain water to exterior of the building.

   a. Top of openings: If wall construction does not provide its own methods of drainage, use separate flashing to prevent water from entering opening components or the interior of the building.

   b. Bottom of openings: Integral or separate sill or flashing to prevent water running over or draining out of opening components from entering the wall construction below or the interior of the building.

2. Flexible seal materials: Minimize deterioration due to operation of doors and aging.

3. **Swinging doors: Control door swing to prevent damage due to impact, to either door or element impacted.**

F. Operation and Maintenance

1. Service life span of operating components: Remaining operable for service life of enclosure elements specified in Section B20 under normal exposure conditions for the project site.

2. Ease of use and repair: Provide oversize doors that will be easy to use by occupants, easy to repair or service, and with operating components easy to replace.

PRODUCTS

~~*A. Overhead Coiling Doors*~~

~~*1. Basis of Design: 625 Series Insulated Service Door by Overhead Door Corporation*~~

B. Oversize Structural Steel Doors

1. Basis of Design: Ambico structural galvanized steel doors and frames.

2. Provide keyed removable mullions at double doors.

C. Lintels
   1. Use one of the following:
      a. Precast concrete.
      b. Galvanized Steel.

D. Sills
   1. Use one of the following:
      a. Precast concrete.
      b. Cast stone.

E. Concealed Flashings
   1. Use:
      a. Stainless steel flashing.

F. Joint sealers: Same as specified in Section B2010.

G. Hardware for Swinging Doors
   1. Provide factory-supplied and pre-installed heavy weight hinges and door latches.
      a. Do not use plated or coated finishes.
   2. Use hardware consistent and compatible with the requirements of Section B2050.00, Exterior Doors and Grilles.

H. Do not use:
   1. Different metals subject to galvanic action in direct contact with each other.
   2. Aluminum in direct contact with concrete or cementitious materials.

I. Frames
   1. Provide manufacturer's standard galvanized steel frames in accordance with door opening requirements, material and appearance.
   2. Frame corners shall be internally reinforced and fully welded unit construction, with corners mitered and continuously welded full depth and width of frame. Frame shall be back welded.
   3. Entrance frames shall be mortised, reinforced, drilled and tapped for all mortise hardware per templates from the hardware supplier.
   4. For insulated units, provide manufacturer's standard weather seals at head, jambs, sill and meeting rails. Weather seals shall be continuous, vandal-resistant and field replaceable.
   5. **Knock-down frames will not be accepted.**
   6. Provide frames at masonry openings with UL type masonry anchors, minimum of three per frame at each jamb**, and as required by door manufacturer for size of door provided**.
   7. Provide caulking stops, filler pieces and trim where required, integrally formed as part of the frame.
   8. Provide hardware reinforcement where specified by hardware manufacturer.

9. Provide cutouts and reinforcing for security devices as required.

J. Door Finish Schedule

1. Basis of Design: G90 galvanizing; factory prime coat(s) and PPG Duranar fluoropolymer coatings; ~~*colors to be determined*~~**color Claypot**.

END OF SECTION B2050.30

SECTION B3010.50

LOW SLOPE ROOFING

PERFORMANCE

A. Basic Function

1. Provide a weather-resistive covering for low-slope roofing where indicated, over the top side of the roof superstructure and any exposed floor superstructure.
2. Provide low-slope roofing to resist the effects of weather and loading conditions without excessive deflection, destruction of adhesive bond, fracture of insulation, or premature failure of the roof system.
3. Provide a coordinated system of all weather-resistive components, including the primary weather barrier, vapor retarders, insulation, water collectors and conductors, wearing surfaces, trim and accessories, fully compatible with one another and adjacent materials and with all roof opening elements and roof fixtures under conditions of service and application required, as demonstrated by roofing manufacturer based on testing and field experience.
4. Where roof covering elements also must function as elements defined within another element group, meet requirements of both element groups.
5. Brand Names: Where brand names are listed, they represent the Basis of Design unless those items are identified as approved proprietary items in project requirements.

B. Amenity and Comfort

1. Thermal performance and solar reflectance: In accordance with applicable codes and project requirements, including LEED certification.
2. Provide continuous moisture barrier and thermal insulation over entire enclosure.

C. Health and Safety

1. Roofing, base flashings, and component materials shall comply with requirements in FM Global 4450 or FM Global 4470 as part of a roofing system, and shall be listed in FM Global's "RoofNav" for Class 1 or noncombustible construction, as applicable. Identify materials with FM Global markings.
    a. Fire/windstorm classification: Class 1A-90.
    b. Hail resistance: MH.

D. Structure

1. Provide roofing structure and substrate sufficiently rigid or dense to support water barrier in a manner that prevents damage due to traffic on roof.
2. Provide roofing capable of withstanding the effects of gravity loads and other loads and stresses within limits and under conditions required by code and referenced standards.
    a. Wind and snow loads: Determine loads based on code requirements and the project's specific location and design.

b. Deflection limits: Roofing assemblies shall withstand wind and snow loads with vertical deflections no greater than 1/240 of the span.

(1) Provide roofing assemblies that will sustain the anticipated live load if drainage is obstructed.

c. Allow for thermal movements resulting from ambient and surface temperature changes. Base calculations on surface temperatures of materials due to both solar heat gain and nighttime-sky heat loss.

(1) Minimum temperature change (range): 120 deg F (67 deg C), ambient on material surfaces.

3. Provide minimum design slope of ¼" per foot (1:48). To the extent possible, slope roof structure to provide positive drainage under design loading conditions.

E. Weather Resistance

1. General performance: Installed roofing and base flashings shall withstand specified uplift pressures, thermally induced movement, and exposure to weather without failure due to defective manufacture, fabrication, installation, or other defects in construction. Roofing and base flashings shall remain watertight.

a. Accelerated weathering: Roofing system shall withstand 2000 hours of exposure when tested according to ASTM G 152, ASTM G 154, or ASTM G 155.

b. Impact resistance: Roofing system shall resist impact damage when tested according to ASTM D 3746 or ASTM D 4272.

F. Durability

1. Life span: In accordance with project requirements and the following:

a. Manufacturer approval of design: Where roof covering manufacturer recommends or requires certain design features for satisfactory performance or for warranty, comply with manufacturer's requirements.

b. Manufacturer Warranty

(1) Special weathertightness warranty for roofing system: Manufacturer's standard form in which manufacturer agrees to repair or replace roof assemblies that fail to remain weathertight, including leaks, within specified warranty period.

(a) Warranty Period: 20 years from date of Substantial Completion.

PRODUCTS

A. Basis of Design: SBS Modified Bitumen Multi-ply Membrane System

1. Provide a complete roofing assembly including but not limited to roofing, auxiliary roofing materials, substrate board, vapor retarder, insulation, walkway pavers, and all related accessories.

2. Provide the following:

a. Provide hot-applied SBS modified bitumen multi-ply membrane roofing system in compliance with SDA Materials and Systems Standards and the following requirements.

b. Auxiliary roofing materials: As provided or approved by the roofing manufacturer for compatibility with all roofing system components.

c. Substrate board: ASTM C 1177/C 1177M, glass-mat, water-resistant gypsum substrate, ½" (13 mm) thick.

d. Insulation Board

(1) Polyisocyanurate board insulation: ASTM C 1289, Type II, Class 1, Grade 3, felt or glass-fiber mat facer on both major surfaces.

(2) Thickness: As required for compliance with all codes and project requirements.

(3) Provide preformed saddles, crickets, tapered edge strips, and other insulation shapes where necessary for sloping to drain.

e. Flexible Walkways

(1) Walkway material: Factory-formed, nonporous, heavy-duty, solid-rubber, slip-resisting, surface-textured walkway rolls, approximately 3/16 inch (5 mm) thick and acceptable to roofing system manufacturer.

(2) Install walkways where necessary to provide access to all rooftop equipment, including all connections, controls and access panels.

(3) Adhere walkways to roofing membrane in a manner acceptable to the roofing system manufacturer.

(4) Ensure that edges and corners are secured and will not curl.

(5) Install walkways so as to avoid interference with roof drainage.

END OF SECTION B3010.50

SECTION C1090.70

STORAGE SPECIALTIES

PERFORMANCE

A. Basic Function

1. Provide storage fixtures attached to interior construction as are necessary for proper functioning of spaces required by the project program.
2. Storage fixtures comprise the following elements:
    a. Closed Material and Utensils Storage: Provide modular storage cabinets and countertops with capacity adequate to accommodate required functions in spaces designated in the program.
    b. Temporary Clothing Storage: Provide open or semi-concealed wardrobe units with capacity adequate for anticipated occupancy in spaces designated in the program.
    c. Temporary Lockable Storage: Provide lockable transient storage units adequate for anticipated occupancy in spaces designated in the program.
    d. Open Material Storage: Provide storage racks or utility shelves for material storage adequate for anticipated needs in spaces designated in the program.
    e. Flammable Materials Storage: Provide storage units adequate for anticipated needs in spaces designated in the program.
    f. Mail Slot Unit: Provide wall-mounted mail slot unit where designated in the program.
3. Where storage fixtures are integral with elements defined within another element group, meet requirements of both element groups.
4. Brand Names: Where brand names are listed, they represent the Basis of Design unless those items are identified as approved proprietary items in project requirements.

B. Amenity and Comfort

1. Accessibility
    a. Provide storage fixtures that comply with applicable barrier-free codes and standards and the following:
        (1) Amounts of Storage: Provide accessible storage comprising not less than 10 percent of available storage fixtures of each type, but in no case less than one of each type.
        (2) Clothing Storage: Where transient clothing storage is required, including closets, wardrobes, closet fixtures, and clothing lockers, provide shelves, clothes hooks, and hanging rods that are not more than 54 inches from the floor.
        (3) Countertops: Where work surfaces or countertops over storage fixtures are required, provide wheelchair access to not less than 10 percent of surface at maximum height of 34 inches from the floor.1

(4) Storage Shelving: Where open or closed material storage is required, provide not less than 20 percent of shelving within a maximum height of 54 inches and a minimum height of 9 inches from the floor.

2. Convenience

a. Clothing Storage: Provide coat and hat racks and coat hooks that are designed with rounded ends and edges to avoid damage to clothing items.

b. Secured Clothing Storage: Provide individual lockable storage units for transient usage that are equipped with hat shelf, clothes hanger rod, and wall hooks.

c. Door Hardware: Provide hardware on not less than 5 percent of latching doors that complies with barrier-free codes and standards.

d. Cable Management: Provide drilled holes with complementary colored plastic grommets in all counters and countertops.

(1) Provide one hole for every 6 ft. of counter length.

3. Stored Item Security

a. Locks: Provide locking capability at storage fixtures as follows:

(1) Lockers: Dial combination locksets.

(2) Cabinets: Keyed locks.

(3) Casework: Keyed locks.

4. Ventilation: For wardrobe lockers and athletic lockers, provide for air circulation through fixture by means of door louvers.

5. Appearance

a. Cabinetry: For closed storage fixtures, provide elements that are designed to complement interior finishes, with concealed hinges and door and drawer pulls integrated into cabinet fronts.

b. Countertops and Work Surfaces: Provide light-colored or metallic surfaces that are seamless or tightly jointed.

c. Lockers: Provide transient storage lockers that are color-coded to floor, department, or area.

C. Health and Safety

1. Combustibility: Provide storage fixtures throughout the project that are made of totally incombustible or fire-retardant treated materials.

2. Fire Hazard: At locations intended for the storage of flammable or highly combustible materials, provide storage fixtures made of totally incombustible materials and doors that are lockable and airtight.

D. Structure

1. Mounting and Anchorage: Provide solid blocking in partitions for mounting and anchorage of all fixed storage units.

2. Seismic Loads: Provide storage racks and shelving units that have been engineered and installed to withstand seismic forces as required by code.

PRODUCTS

A. Built-In Cabinetry and Casework, including Countertops
   1. Cabinetry and casework, unless designated otherwise
      a. Custom-grade wood cabinets and countertops.
      b. Plastic laminate finish.
      c. Integral backsplash.
   2. Science ~~*Labs*~~**Demonstration Lab**
      a. Custom-grade solid wood full-frame cabinets; oak, maple or birch.
      b. Chemical-resistant clear polymer finish inside and outside.
      c. Epoxy resin countertops; 1" thick.
   ~~*3. Tech/Robotics Lab*~~
   4. Technology Project Lab and Art Room
      a. Custom-grade wood cabinets with plastic laminate finish
      b. Solid laminated maple countertops; 1-3/4" thick.
      ~~*c. Matching mobile demonstration station.*~~

B. Wardrobe Units
   1. Use one of the following:
      a. Wood and metal coat and hat racks.

B. Closet Specialties
   1. Use one of the following:
      a. Fixed wood shelving and metal hanger rods at coat closets.
      b. Adjustable wood shelving at storage closets.

C. Lockers
   1. Use one of the following:
      a. Metal frame and panel lockers with baked enamel finish at corridors and locker rooms.

D. Utility Storage Shelving and Mail Slot Unit
   1. Instructional and Administrative Spaces
      a. Wood construction with plastic laminate finish.
   2. Storage, Utility, Mechanical and Custodial Spaces
      a. Heavy-duty steel shelving.
      b. Welded construction with adjustable inner shelves.
      c. Minimum capacity 800 lbs. per shelf.
      d. Baked enamel finish.

e. Full-height, six-shelf units unless noted otherwise.

E. Flammable Materials Storage

1. Use the following:

(1) Noncombustible construction, meeting NFPA and OSHA standards for storage of flammable materials.

METHODS OF CONSTRUCTION

A. Provide storage fixtures using the following methods and techniques:

1. Provide manufactured and factory-finished storage fixtures for field installation throughout the project.
2. Comply with AWI Custom Grade for all wood cabinets and casework.
3. Provide factory cutouts for all fixtures, equipment, and utilities.
4. Provide solid blocking for attachment to walls and ceilings.
5. Metal Lockers: Fabricate from galvanized steel sheet conforming to ASTM A 653/A653M-2006a, SS Grade 33 (230), G60/Z180 coating.

a. Wardrobe Lockers: Minimum steel thickness of 0.024 in; frames of formed channel shapes; welded and ground flush; resilient latching mechanism for quiet operation.

(1) Width: 12 in.

(2) Depth: 18 in.

(3) Height: 72 in. **(single-tier); 36 in. (double-tier).**

(4) Locking: Equip with built-in combination locks.

(5) Doors: Hollow construction with louvers; channel reinforced top and bottom, acoustical fill, smoothly ground and finished edges.

(6) Hinges: Minimum 2 hinges welded securely to body and door.

(7) Number Plates: Rectangular aluminum plates, riveted to doors, color contrasting with doors.

(8) Locker Colors: As selected from manufacturer's standards.

(9) Accessories: Sloping top; minimum two wall hooks, coat hanger bar, and hat shelf.

END OF SECTION C1090.70

SECTION C2000.00

INTERIOR FINISHES

PERFORMANCE

A. Basic Function

1. Provide appropriately finished interiors for all spaces required by the program.
2. Interior finishes comprise the following elements:
    a. Wall finishes, including those applied to the interior face of exterior walls and to the vertical faces of superstructure elements.
    b. Floor finishes, except for access floors.
    c. Applied ceiling finishes.
    d. Stair finishes, except for integral stair surfaces.
    e. Finishes applied to other interior surfaces.
3. **Unless otherwise indicated, provide finishes consistent with the Authority's Materials and Systems Standards.**
4. Where interior finishes are integral with elements defined within another element group, meet requirements of both element groups.
5. Brand Names: Where brand names are listed, they represent the Basis of Design unless those items are identified as approved proprietary items in project requirements.

B. Amenity and Comfort

1. Reflectivity
    a. Glare: Provide interior finishes that will not result in discomfort glare due to excessive contrast with light sources.
        (1) Ceiling Surfaces: Not less than 90 percent reflectivity, when measured in accordance with ASTM E 1477-1998a (Reapproved 2003).
        (2) Wall Surfaces: Not less than 70 percent reflectivity.
        (3) Floor Surfaces: Not less than 30 percent reflectivity.
2. Acoustical Performance
    a. Sound Absorption: Provide acoustical absorption within interior spaces to achieve reverberation times within the limits specified in Section C - Interiors.
3. Cleanliness
    a. For kitchens, provide wall, ceiling, and floor surfaces that are USDA approved.
    b. For spaces such as toilet rooms and custodial spaces, provide wall, ceiling, and floor surfaces that are inherently resistant to moisture and that can be cleaned by caustic agents without damage.
    c. **Provide matching cove base materials or self-cove base systems for all flooring unless otherwise indicated.**

C. Health and Safety

1. Slip Resistance

a. For spaces subject to floor wetting, including entry lobbies, provide floor finishes with inherent slip resistance under wet conditions.

b. At building entries, provide means for reducing or minimizing moisture and debris on shoe soles.

2. Tactile Warning Surfaces: Provide floor surfaces that comply with ADAAG-1994 detectable warning requirements at potentially hazardous locations, including top and bottom of stairs, curbs, top and bottom of ramps, and other locations required by referenced standards.

3. Flammability: Provide finishes with flame spread ratings not greater than the permitted by codes and referenced standards.

D. Durability

1. Interior Wall Finishes at Exterior Walls: Provide surfaces that will not be damaged by incidental condensation from windows.

2. Wall Protection: In corridors and other spaces vulnerable to wheeled equipment, provide impact-resistant wall bumpers, and corner guards or wall surfaces that are inherently resistant to impact damage due to rolling carts and hand trucks.

3. Opening Protection: At partition openings intended to accommodate pedestrian or vehicular traffic, provide protection of opening edges in the form of door frames (cased openings), or corner guards.

INTERIOR FINISH SCHEDULE

A. Interior Floor Finishes (Basis of Design)

1. Provide interior floor finishes consistent with Table C2000.00-1.

TABLE C2000.00-1
INTERIOR FLOOR FINISHES

Location	Key	Style	Color
1st floor	VCT-1	Armstrong Standard Excelon	**51885 Granny Smith**
2nd floor	VCT-2	Armstrong Standard Excelon	**51812 Lemon Yellow**
3rd floor	VCT-3	Armstrong Standard Excelon	**51867 Canteloupe**
All floor s (field)	VCT-4	Armstrong Standard Excelon MultiColor	**52514 Jubilee White**
	VCT-5	**Not used.**	
~~*All floors (IDF & MDF)*~~**Electrical and IT Closets**	VCT-~~5~~**6**	Armstrong SDT ~~Static Dissipative~~ Tile	**51951 Armor Gray**
All VCT floors ~~(where applicable)~~	Vinyl Base	Armstrong Vinyl Integrated Wall Base	**Match VCT-4.**
Lobbies	CT-1	Dal-Tile Natural Hues	**QH28 Sweet Pea #60**
Lobbies	CT-2	Dal-Tile Natural Hues	**QH71 Mango #60**
Lobbies	CT-~~4~~**3**	Dal-Tile Natural Hues	**QH73 Dijon #60**
Lobbies	CT-~~5~~**4**	Dal-Tile Natural Hues	**QH24 Ivory #60**
Lobbies	Cove Base	Dal-Tile Natural Hues	**Match VCT-4**
Custodial Closets		**Stonhard Stontec ERF with 1/16" chips and non-slip texture**	**To be determined.**
Rest Rooms	**CT-4**	**Stonhard Stontec ERF with 1/16" chips and non-slip texture**	**To be determined.**
Kitchen and Servery	**n/a**	**Stonclad UT with medium texture**	**Sage**
Kitchen Support Spaces	**n/a**	**Stonhard Stontec ERF with 1/16" chips and non-slip texture**	**40% Moody Blue #C9972 20% Moody Blue #C9972 15% Moody Blue #C9972 10% Moody Blue # C9972 5% Steel Blue #C9968 5% Dusk Blue # C1200 3% Dusk Blue # C1200 2% Moody Blue #C9972**
Gymnasium	**n/a**	**Tarkett Resicore; 9mm underlayment and 2mm finish coat.**	**Three colors plus logo.**
Multi-Purpose Room	**n/a**	**Tarkett Resicore; 4mm underlayment and 2mm finish coat.**	**Two colors.**

B. Interior **Wall** Paint Finishes (Basis of Design)

1. Provide one accent wall color per classroom, one accent wall color in each stair, and one accent wall color within each large group room**, in colors consistent with Table C2000.00-2**.

TABLE C2000.00-2
INTERIOR WALL PAINT FINISHES

Location	Key	Style	Color
1st floor Wall Accent	P-1	Benjamin Moore	#543 Woodland Hills Green
2nd floor Wall Accent	P-2	Benjamin Moore	#320 Amarillo
3rd Floor Wall Accent	P-3	Benjamin Moore	#124 Orange Appeal
~~*1st Floor Lobby*~~**All others not listed**	P-4	Benjamin Moore	#OC-39 Timid White
~~*All others*~~**Science Labs** **Science Demonstration Labs** **Cafeteria** **Kitchen and Support** **Corridors** **Lobbies and Vestibules** **Stairs** **Rest Rooms** **Nurse's Suite** **Custodial, Maintenance and Mechanical Rooms**	~~*P-5*~~**n/a**	Benjamin Moore	**To be determined**

END OF SECTION C2000.00

SECTION D6000.00

COMMUNICATIONS

PERFORMANCE

A. Basic Function

1. Provide the following Communication and Information Technology (IT) system components in accordance with code, referenced standards, and all project requirements:
    a. Main Distribution Frame (MDF) / Intermediate Distribution Frame (IDF) construction, layout, cooling / ventilation, power / UPS, and ready to use delivery.
    b. Vertical and horizontal cable plant; cable management; labeling schema and application; cable plant testing and certification.
    c. Data outlets and electrical receptacles.
    d. Elevator intercommunication system.
    e. Security system.
    f. Large-format display systems**, including wall-mounted interactive white boards**.
    g. Sound enhancement speakers and system.
    h. Music playback system and speakers.
    i. General paging, clock, bell schedule and announcement system.
    j. Television and video distribution system.
    k. Support for UHF-based analog/digital radio communications.
2. Brand Names: Where brand names are listed, they represent the Basis of Design unless those items are identified as approved proprietary items in project requirements.

B. Operation and Maintenance

1. Provide operations and maintenance data and training as required by Section 08120, Operation and Maintenance Data and Training, and as follows:
    a. Operational Training: Minimum of (8) hours, 2 persons.
    b. Maintenance Training: Minimum of (8) hours, 2 persons.

C. General Requirements

1. See Table D6000.00-1, Communications Responsibilities, for description of Design-Builder's Communications responsibilities under this section.
2. General Page
    a. The general paging system shall provide audio paging capability throughout the facility.
    b. Announcements must be audible from all indoor and outdoor spaces that will be occupied by students or staff.
    c. The paging system shall provide the ability to distribute a page to multiple zones as well as to the entire facility.

3. Security System
    a. Provide an integrated digital security system consisting of the following:
        (1) Exterior door monitoring and control
        (2) Exterior operable window contactors at first-floor windows.
        (3) Glass break detectors.
        (4) Motion detectors.
        (5) Video surveillance system covering the interior and exterior of the building.
    b. Homeland Security requirements for redundancy in entrance/access alarm systems shall be met as follows:
        (1) Every exterior door shall have a lock and contacts, plus an interior motion detector on a separate circuit.
        (2) Every at-grade room with operable windows shall have locks and contacts on all operable units, plus a motion detector on a separate circuit.
        (3) Every at-grade room with fixed windows ONLY shall have a motion detector, plus a glass break detector on a separate circuit.
    c. Security system components and function shall meet all code and project requirements and the requirements of "Best Practices for Schools under Construction or Being Planned for Construction."
4. Clock Systems
    a. Automatic Daylight Savings Time (DST) adjustments shall be made based on Network Time Protocol (NTP).
    b. All clocks shall display current time within one minute of accuracy to the Network Time Protocol Server.
    c. Clocks shall be analog unless otherwise indicated and equipped to display hour, minute and seconds.
    d. Double-faced clocks shall be used in corridors and other common areas where the clock is viewable from opposite sides.
    e. All clocks shall be powered through IEEE 802.3af standard Power over Ethernet (PoE) utilizing CAT5/6 cabling.
5. Bell Scheduling
    a. A bell generation system shall utilize the general paging system to distribute tones to the facility. The tones will be utilized primarily to signal class change.
    b. The bell scheduling system shall accommodate for multiple schedules based on date/day.
    c. The system shall allow for manual tone generation.
    d. The scheduling system must be programmable from a standard desktop or laptop computer.

6. Music Sound System
    a. Provide a two-channel music system and speakers with the following features:
        (1) Playback capability in CD, MP3, WMA and other common audio formats.
        (2) FM radio reception.
        (3) Minimum 20-20K hz response.
        (4) Minimum continuous output as noted.
        (5) Operation independent of any other audio devices.
7. Wide Area Network (WAN) Connectivity
    a. A private fiber-based WAN is in use throughout the district.
    b. Coordinate with school district officials to connect to the WAN.
    c. Connectivity shall be through direct fiber hand-off.
    d. Utilize the building MPOE and carrier conduits.
    e. Interconnections shall be made at the building MDF.

D. Detailed Technology Requirements and Data Outlet Placement
1. Pre-K Component
    a. Pre-Kindergarten Classroom
        (1) Sound enhancement speakers and system.
        ~~*(2) Ceiling-mounted LCD projector with sound output integrated to Sound Enhancement Speakers and System.*~~
        ~~*(3) Projector input jacks shall be extended from mounting location and placed within 6 feet of instructor furniture on a wall plate providing VGA/DVI, HDMI, and RCA/Stereo audio input.*~~
        (4) Wall-mounted interactive white board.
        (5) Two data outlets within 4 feet of ~~*ceiling-mounted LCD projector*~~**interactive white board**.
        (6) Six data outlets within 10 feet of student workstations as depicted on furniture plan (enlarged room layouts) and centered to furniture placement.
        (7) Two data outlets within 6 feet of Instructor furniture.
        (8) One data outlet above door or at specified location for wall-mounted clock.
        (9) One data outlet within 3 feet from the main door for wall-mounted telephone.
    b. Teacher Workroom
        (1) Four data outlets mounted above desk level on work surface.
        (2) One data outlet at copier location.
        (3) One data outlet above door or at specified location for wall-mounted clock.

2. Instructional Component

   a. Kindergarten Classroom

      (1) Sound enhancement speakers and system

      ~~*(2) Ceiling-mounted LCD projector with sound output integrated to Sound Enhancement Speakers and System.*~~

      ~~*(3) Projector input jacks shall be extended from mounting location and placed within 6 feet of instructor furniture on a wall plate providing VGA/DVI, HDMI, and RCA/Stereo audio input.*~~

      (4) Wall-mounted interactive white board.

      (5) Two data outlets within 4 feet of ~~*ceiling-mounted LCD projector*~~**interactive white board**.

      (6) Six data outlets within 10 feet of student workstations as depicted on furniture plan (enlarged room layouts) and centered to furniture placement.

      (7) Two data outlets within 6 feet of Instructor furniture.

      (8) One data outlet above door or at specified location for wall-mounted clock.

      (9) One data outlet within 3 feet from the main door for wall-mounted telephone.

   b. General Classroom, Grades 1-3

      (1) Sound enhancement speakers and system

      ~~*(2) Ceiling-mounted LCD projector with sound output integrated to Sound Enhancement Speakers and System.*~~

      ~~*(3) Projector input jacks shall be extended from mounting location and placed within 6 feet of instructor furniture on a wall plate providing VGA/DVI, HDMI, and RCA/Stereo audio input.*~~

      (4) Wall-mounted interactive white board.

      (5) Two data outlets within 4 feet of ~~*ceiling-mounted LCD projector*~~**interactive white board**.

      (6) Six data outlets within 10 feet of student workstations as depicted on furniture plan (enlarged room layouts) and centered to furniture placement.

      (7) Two data outlets within 6 feet of Instructor furniture.

      (8) One data outlet above door or at specified location for wall-mounted clock.

      (9) One data outlet within 3 feet from the main door for wall-mounted telephone.

   c. General Classroom, Grades 4-5

      (1) Sound enhancement speakers and system

      ~~*(2) Ceiling-mounted LCD projector with sound output integrated to Sound Enhancement Speakers and System.*~~

      ~~*(3) Projector input jacks shall be extended from mounting location and placed within 6 feet of instructor furniture on a wall plate providing VGA/DVI, HDMI, and RCA/Stereo audio input.*~~

(4) Wall-mounted interactive white board.

(5) Two data outlets within 4 feet of ~~*ceiling-mounted LCD projector*~~**interactive white board**.

(6) Six data outlets within 10 feet of student workstations as depicted on furniture plan (enlarged room layouts) and centered to furniture placement.

(7) Two data outlets within 6 feet of Instructor furniture.

(8) One data outlet above door or at specified location for wall-mounted clock.

(9) One data outlet within 3 feet from the main door for wall-mounted telephone.

d. Self-Contained Special Education Classroom

(1) Sound enhancement speakers and system

~~*(2) Ceiling-mounted LCD projector with sound output integrated to Sound Enhancement Speakers and System.*~~

~~*(3) Projector input jacks shall be extended from mounting location and placed within 6 feet of instructor furniture on a wall plate providing VGA/DVI, HDMI, and RCA/Stereo audio input.*~~

(4) Wall-mounted interactive white board.

(5) Two data outlets within 4 feet of ~~*ceiling-mounted LCD projector*~~**interactive white board**.

(6) Six data outlets within 10 feet of student workstations as depicted on furniture plan (enlarged room layouts) and centered to furniture placement.

(7) Two data outlets within 6 feet of Instructor furniture.

(8) One data outlet above door or at specified location for wall-mounted clock.

(9) One data outlet within 3 feet from the main door for wall-mounted telephone.

e. Science Demonstration Room

(1) Sound enhancement speakers and system

~~*(2) Ceiling-mounted LCD projector with sound output integrated to Sound Enhancement Speakers and System.*~~

~~*(3) Projector input jacks shall be extended from mounting location and placed within 6 feet of instructor furniture on a wall plate providing VGA/DVI, HDMI, and RCA/Stereo audio input.*~~

(4) Wall-mounted interactive white board.

(5) Two data outlets within 4 feet of ~~*ceiling-mounted LCD projector*~~**interactive white board**.

(6) Six data outlets within 10 feet of student workstations as depicted on furniture plan (enlarged room layouts) and centered to furniture placement.

(7) Two data outlets within 6 feet of Instructor furniture.

(8) One data outlet above door or at specified location for wall-mounted clock.

(9) One data outlet within 3 feet from the main door for wall-mounted telephone.

f. Small Group Instruction ~~*Room*~~**, Speech, Reading, Resource, OT/PT Rooms**

(1) Four data outlets within 10 feet of student workstations as depicted on furniture plan (enlarged room layouts) and centered to furniture placement.

(2) Two data outlets within 6 feet of Instructor furniture.

(3) One data outlet above door or at specified location for wall-mounted clock.

(4) One data outlet within 3 feet from the main door for wall-mounted telephone.

g. Small Group Instruction/Itinerant **Staff** Office

(1) Four data outlets within 10 feet of student workstations as depicted on furniture plan (enlarged room layouts) and centered to furniture placement.

(2) Two data outlets within 6 feet of Instructor furniture.

(3) One data outlet above door or at specified location for wall-mounted clock.

(4) One data outlet within 3 feet from the main door for wall-mounted telephone.

h. Basic Skills/ESL Classroom

(1) Sound enhancement speakers and system

~~*(2) Ceiling-mounted LCD projector with sound output integrated to Sound Enhancement Speakers and System.*~~

~~*(3) Projector input jacks shall be extended from mounting location and placed within 6 feet of instructor furniture on a wall plate providing VGA/DVI, HDMI, and RCA/Stereo audio input.*~~

(4) Wall-mounted interactive white board.

(5) Two data outlets within 4 feet of ~~*ceiling-mounted LCD projector*~~**interactive white board**.

(6) Six data outlets within 10 feet of student workstations as depicted on furniture plan (enlarged room layouts) and centered to furniture placement.

(7) Two data outlets within 6 feet of Instructor furniture.

(8) One data outlet above door or at specified location for wall-mounted clock.

(9) One data outlet within 3 feet from the main door for wall-mounted telephone.

i. Teacher Workroom

(1) Four data outlets mounted above desk level on work surface.

(2) One data outlet at copier location.

(3) One data outlet above door or at specified location for wall-mounted clock.

j. Remote Administrative Office

(1) Two data outlets within 10 feet of Remote Admin Office furniture.

(2) Two data outlets within 10 feet of Remote Admin Reception furniture.

(3) One data outlet above main door or at specified location for wall-mounted clock.

(4) Two wall-mounted data outlets along wall with 6' Marker Board at or above 3 feet from floor of Teacher Planning Conference room.

3. Large-Group Component

a. Multi-Purpose Room

(1) Three data outlets at or above door level on each wall for clock placement.

(2) Music sound system and speakers, minimum 250-watt continuous output.

(3) Support for wired and wireless microphone system.

(4) Large-format ceiling-mounted LCD projector sufficient for viewing from entire room with sound output integrated with room sound system.

(5) Two data outlets within 4 feet of ceiling-mounted LCD projector.

(6) One large format motorized projection screen as depicted on furniture plan (enlarged room layouts).

(7) Sound and video inputs accessible from center and both sides of the stage.

(8) One data outlet within 6 feet of stairs leading to the stage for wall-mounted telephone.

b. Stage/Instrumental Music Room

(1) Sound enhancement speakers and system

~~*(2) Ceiling-mounted LCD projector with sound output integrated to Sound Enhancement Speakers and System.*~~

~~*(3) Projector input jacks shall be extended from mounting location and placed within 6 feet of instructor furniture on a wall plate providing VGA/DVI, HDMI, and RCA/Stereo audio input.*~~

(4) Wall-mounted interactive white board.

(5) Two data outlets within 4 feet of ~~*ceiling-mounted LCD projector*~~**interactive white board**.

(6) Music sound system and speakers, minimum 100-watt continuous output.

(7) Two data outlets within 6 feet of Instructor furniture.

(8) One data outlet above door or at specified location for wall-mounted clock.

(9) One data outlet within 3 feet from the main door for wall-mounted telephone.

c. Cafeteria **and Food Service**

(1) Three data outlets at or above door level on each wall for clock placement.

(2) Four data outlets supplied in food service office within 6 feet of furniture.

(3) Two data outlets within 4 feet of each point of sale (PoS) terminal as depicted on furniture plan (Enlarged Room Layout).

(4) Ceiling-mounted LCD projector with sound output integrated to Sound Enhancement Speakers and System.

(5) Projector input jacks shall be extended from mounting location and placed within 6 feet of instructor furniture on a wall plate providing VGA/DVI, HDMI, and RCA/Stereo audio input.

(6) Two data outlets within 4 feet of ceiling-mounted LCD projector.

(7) Music sound system and speakers, minimum 250-watt continuous output.

(8) Support for Wired and Wireless Microphone system.

(9) One large format motorized projection screen as depicted on furniture plan (Enlarged Room Layout).

(10) One data outlet within 6 feet door leading to main corridor for wall-mounted telephone.

(11) Two data outlets within 6 feet of Kitchen office desk.

~~*(12) One data outlet outside kitchen office door for biometric staff timecard system.*~~

d. Faculty Conference/Dining Room

~~*(1) LCD projector with sound amplification.*~~

~~*(2) Projector input jacks shall be extended from mounting location and placed on teaching wall with a wall plate providing VGA/DVI, HDMI, and RCA/Stereo audio input.*~~

(3) Wall-mounted interactive white board.

(4) Two data outlets within 4 feet of interactive white board.

(5) Two data outlets within 5 feet of vending machines; not behind machines.

(6) One data outlet within 3 feet from the main door for wall-mounted telephone.

(7) One data outlet above main door or at specified location for wall-mounted clock.

e. Gymnasium

(1) Two data outlets in each PE Office within 6 feet of Instructor furniture.

(2) Four data outlets at or above door level on each wall for clock placement.

(3) One data outlet on right wall centered between the two PE offices or at specified location for wall-mounted clock.

(4) Two data outlets in each PE Office within 6 feet of Instructor furniture.

(5) One multi-sport score board placed opposite bleachers with controls wired to a central location near bleachers.

(6) Music sound system and speakers, minimum 250-watt continuous output.

(7) Support for wired and wireless microphone system.

(8) One data outlet in each corner along wall with bleachers for wall-mounted telephone.

~~*f. Art Room*~~

~~*(1) Sound enhancement speakers and system*~~

~~*(2) Ceiling-mounted LCD projector with sound output integrated with sound enhancement speakers and system.*~~

~~*(3) Projector input jacks shall be extended from mounting location and placed within 6 feet of instructor furniture on a wall plate providing VGA/DVI, HDMI, and RCA/stereo audio input.*~~

~~*(4) Two data outlets within 4 feet of ceiling-mounted LCD projector.*~~

~~*(5) Two data outlets within 6 feet of Instructor furniture.*~~

~~*(6) One data outlet above door or at specified location for wall-mounted clock.*~~

~~*(7) One moveable interactive whiteboard.*~~

~~*g. Technology Lab*~~

~~*(1) Sound enhancement speakers and system*~~

~~*(2) Ceiling-mounted LCD projector with sound output integrated with sound enhancement speakers and system.*~~

~~*(3) Projector input jacks shall be extended from mounting location and placed within 6 feet of instructor furniture on a wall plate providing VGA/DVI, HDMI, and RCA/stereo audio input.*~~

~~*(4) Two data outlets within 4 feet of ceiling-mounted LCD projector.*~~

~~*(5) Two data outlets within 6 feet of Instructor furniture.*~~

~~*(6) One data outlet above door or at specified location for wall-mounted clock.*~~

~~*(7) One data outlet within 3 feet from the main door for wall-mounted telephone.*~~

~~*(8) Six data outlets at each project work station as depicted on furniture plan (Enlarged Room Layout) and centered to furniture placement.*~~

~~*(9) Three duplex 20-amp, 120-volt, specification grade outlets above counter space as depicted on furniture plan (Enlarged Room Layout).*~~

~~*(10) One overhead pull-down style duplex power outlet above each project table.*~~

~~*(11) One moveable interactive whiteboard.*~~

~~*h. Technology Classroom*~~

~~*(1) Sound enhancement speakers and system*~~

~~*(2) Ceiling-mounted LCD projector with sound output integrated with sound enhancement speakers and system.*~~

~~*(3) Projector input jacks shall be extended from mounting location and placed within 6 feet of instructor furniture on a wall plate providing VGA/DVI, HDMI, and RCA/stereo audio input.*~~

~~*(4) Two data outlets within 4 feet of ceiling-mounted LCD projector.*~~

~~*(5) Six data outlets within 10 feet of student workstations as depicted on furniture plan (Enlarged Room Layout) and centered to furniture placement.*~~

~~*(6) Two data outlets within 6 feet of Instructor furniture.*~~

~~*(7) One data outlet above door or at specified location for wall-mounted clock.*~~

~~*(8) One data outlet within 3 feet from the main door for wall-mounted telephone.*~~

i. **Vocal** Music Room

(1) Sound enhancement speakers and system

~~*(2) Ceiling-mounted LCD projector with sound output integrated to Sound Enhancement Speakers and System.*~~

~~*(3) Projector input jacks shall be extended from mounting location and placed within 6 feet of instructor furniture on a wall plate providing VGA/DVI, HDMI, and RCA/Stereo audio input.*~~

(4) Wall-mounted interactive white board.

(5) Two data outlets within 4 feet of ~~*ceiling-mounted LCD projector*~~**interactive white board**.

(6) Music sound system and speakers, minimum 100-watt continuous output.

(7) Six data outlets within 10 feet of student workstations as depicted on furniture plan (Enlarged Room Layout) and centered to furniture placement.

(8) Two data outlets within 6 feet of Instructor furniture.

(9) One data outlet above door or at specified location for wall-mounted clock.

(10) One data outlet within 3 feet from the main door for wall-mounted telephone.

j. Instrumental Music Office/Lesson Room

(1) Four data outlets within 10 feet of student workstations as depicted on furniture plan (enlarged room layouts) and centered to furniture placement.

(2) Two data outlets within 6 feet of Instructor furniture.

(3) One data outlet above door or at specified location for wall-mounted clock.

(4) One data outlet within 3 feet from the main door for wall-mounted telephone.

k. **Custodial Office/**Back-Up Emergency Control Center

(1) Supply connectivity as required to support ECC Requirements.

(2) All connectivity must be redundant.

(3) Supply stand-alone POTS based telephone service.

(4) Independent access to general paging system.

(5) Independent access to public announcement PA system.

(6) One data outlet above door or at specified location for wall-mounted clock.

~~*l. Building Support Services (Custodial Workroom / Toilets)*~~

m. Staff Locker/Break Room

(1) One data outlet above door or at specified location for wall-mounted clock.

(2) Two data outlets within 6 feet of ~~*drafting*~~**work** table.

(3) One data outlet within 3 feet from the main door for wall-mounted telephone.

~~*(4) One data outlet outside door for biometric staff timecard system.*~~

4. Core Component

a. Media Center

~~*(1) Fiber based connectivity from Media Center Server room to closest IDF.*~~

~~*(2) All Copper based network connectivity shall be wired to the Media Center Server room.*~~

(3) ~~*Supply network drops to support offices*~~**Data outlets for desks and work tables,** copiers/printers, student computers and other devices within the media center.

(4) Sound enhancement speakers and system

(5) Six data outlets at circulation desk.

(6) One data outlet above door or at specified location for wall-mounted clock.

(7) One data outlet within 3 feet from the main door for wall-mounted telephone.

(8) One moveable interactive whiteboard.

b. Media Center Office/Work Room

(1) Six data outlets at desks and work tables.

(2) One data outlet above door or at specified location for wall-mounted clock.

(3) One data outlet within 3 feet from the main door for wall-mounted telephone.

c. Media Center Server/Storage Room

(1) Fiber based connectivity from Media Center Server room to closest IDF.

(2) All copper based network connectivity for Media Center shall be wired to the Media Center Server room.

~~*d. Media Center Class*~~

~~*(1) Sound enhancement speakers and system*~~

~~*(2) Ceiling-mounted LCD projector with sound output integrated to sound enhancement speakers and system.*~~

~~*(3) Projector input jacks shall be extended from mounting location and placed on a wall plate providing VGA/DVI, HDMI, and RCA/Stereo audio input.*~~

~~*(4) Two data outlets within 4 feet of ceiling-mounted LCD projector.*~~

~~*(5) One data outlet above door or at specified location for wall-mounted clock.*~~

~~*(6) One data outlet within 3 feet from the main door for wall-mounted telephone.*~~

e. Technology/Project Lab

(1) Sound enhancement speakers and system

(2) Wall-mounted interactive white board.

(3) Two data outlets within 4 feet of interactive white board.

(4) Two data outlets within 6 feet of Instructor furniture.

(5) One data outlet above door or at specified location for wall-mounted clock.

(6) One data outlet within 3 feet from the main door for wall-mounted telephone.

(7) Six data outlets at each project work station as depicted on furniture plan (Enlarged Room Layout) and centered to furniture placement.

(8) Three duplex 20-amp, 120-volt, specification grade outlets above counter space as depicted on furniture plan (Enlarged Room Layout).

(9) One overhead pull-down style duplex power outlet above each project table.

(10) One moveable interactive whiteboard.

f. Art Room

(1) Sound enhancement speakers and system

(2) Wall-mounted interactive white board.

(3) Two data outlets within 4 feet of interactive white board.

(4) Two data outlets within 6 feet of Instructor furniture.

(5) One data outlet above door or at specified location for wall-mounted clock.

(6) One data outlet within 3 feet from the main door for wall-mounted telephone.

g. Nurse's Office

(1) Four data outlets within 6 feet of Nurse's Desk.

(2) Two data outlets within 4 feet of table in Nurse's Office.

(3) One data outlet above door or at specified location for wall-mounted clock.

(4) One data outlet within 3 feet from the main door for wall-mounted telephone.

(5) One data outlet above door or at specified location for wall-mounted clock within the Exam Room.

h. Main Office

~~*(1) One data outlet outside door for biometric staff timecard system.*~~

(2) One data outlet above door or at specified location for wall-mounted clock at the reception waiting area. Two data outlets within 6 feet of each desk within the main office.

(3) Two data outlets within 6 feet of copier in workroom.

(4) One data outlet above door or at specified location for wall-mounted clock within the workroom.

(5) Two data outlets within 6 feet of credenza in conference room.

(6) One data outlet above door or at specified location for wall-mounted clock within the conference room.

(7) One data outlet above door leading to corridor or at specified location for wall-mounted clock within the principal's office.

(8) Two data outlets within 6 feet of desk in principal's office.

(9) One data outlet above door or at specified location for wall-mounted clock within vice-principal's office.

(10) Two data outlets within 6 feet of desk in vice-principal's office.

i. Emergency Control Center

(1) Supply connectivity as required to support ECC Requirements.

(2) All connectivity must be redundant.

(3) Supply stand-alone POTS-based telephone service.

(4) Independent access to general paging system.

(5) Independent access to public announcement PA system.

(6) One data outlet above door or at specified location for wall-mounted clock.

j. Student Services

(1) Two data outlets within 6 feet of Receptionist desk.

~~*(2) Two data outlets within 4 feet of Copier*~~.

(3) One data outlet above door or at specified location for wall-mounted clock.

(4) Two data outlets within 4 feet of each printer or copier.

(5) Two data outlets within 6 feet of desk within the ~~*social worker's*~~ **each** office **or work station.**

~~*(6)*~~ One data outlet above door or at specified location for wall-mounted clock within ~~*social workers office.*~~

~~*(7) Two data outlets within 6 feet of Desk within the Pre-K Admin Office.*~~

(8) ~~*One data outlet above door or at specified location for wall mounted clock within the Pre-K Admin*~~**each** office.

k. Parent/Community Room

(1) Sound enhancement speakers and system

~~*(2) Ceiling-mounted LCD projector with sound output integrated to sound enhancement speakers and system.*~~

~~*(3) Projector input jacks shall be extended from mounting location and placed within 6 feet of instructor furniture on a wall plate providing VGA/DVI, HDMI, and RCA/Stereo audio input.*~~

(4) Wall-mounted interactive white board.

(5) Two data outlets within 4 feet of ~~*ceiling-mounted LCD projector*~~ **interactive white board**.

(6) Two data outlets within 6 feet of Instructor furniture.

(7) One data outlet above door or at specified location for wall-mounted clock.

(8) One data outlet within 3 feet from the main door for wall-mounted telephone.

l. Child Study Team

(1) Two data outlets within 6 feet of receptionist furniture.

(2) One data outlet above door or at specified location for wall-mounted clock in the reception area.

(3) Two data outlets within 6 feet of desk within each CST office.

(4) One data outlet above door or at specified location for wall-mounted clock in each CST Office.

(5) Two data outlets within 4 feet of table in Conference room.

(6) One data outlet above door or at specified location for wall-mounted clock in the conference room.

PRODUCTS

A. Proprietary Specifications

1. The following products or manufacturers have been approved by the Authority for proprietary specification and use in this Project:

a. Security System: Bosch

2. Subject to compliance with codes and all project requirements, the Design-Builder is required to use the indicated products or manufacturers and to verify compatibility with the school district's existing systems.

B. Communications Systems

1. Sound Enhancement System

a. Basis of Design: Orator Infrared Voice Enhancement System, manufactured by Bogen Communications, Inc., Ramsey, NJ.

2. Interactive White Boards

a. Basis of Design: SMART Board 880i5, with the following accessories:

(1) HAWM-UX/UF adjustable wall mount.

(2) Integral speakers.

(3) Input panel within six feet of instructor's location, with inputs for all supported formats.

(4) WC8 wireless connection.

(5) PXE-DCM+ control module, by SP Controls, Inc., of San Francisco, CA.

C. Floor-mounted boxes for data connectivity.

1. Avoid floor-mounted boxes where possible.
2. Where no alternative to the use of floor-mounted boxes exists, the Basis of Design shall be the Evolution Series Floor Box from Legrand/Wiremold.

METHODS OF CONSTRUCTION

A. Safety and Security

1. Safety and security systems shall be designed to provide survivability in the event of primary path failure.
2. Each IDF and ECC/B-ECC shall have physical fiber optic path to the MDF and to one other IDF. The intent is to provide a "loop" and to mitigate outages from single path failures.
3. Primary (MDF to IDF) and secondary (IDF to IDF) fiber connectivity shall not share paths of travel.

Table D6000.00-1 Communications Responsibilities

Item	*By Design-Builder*	*By Others*	*Comments*
Infrastructure			
MDF and IDFs	●		
Racks and Cabinets	●		
UPS for MDF and IDFs	●		
Entrance Conduits	●		
Grounding System	●		
Service Entrance Conduits	●		
Cable Management	●		
Vertical and Horizontal Cabling	●		
Data Outlets	●		
Routers		●	**Note change.**
Switches		●	**Note change.**
WiFi Routers		●	**Note change.**
Telephone System			
Wall Outlets	●		
Dedicated Lines	●		
Loud Bells	●		
Switching and Routing Equipment		●	
Handsets		●	
Elevator Communication System	●		

Item	*By Design-Builder*	*By Others*	*Comments*
Other Systems and Equipment			
Ceiling-Mounted Projectors	●		
Security System	●		
General Paging System	●		
Sound Enhancement System	●		
Music Playback System	●		
Clock and Bell System	●		
Internet Service Connection		●	
Cable Television Service Connection		●	
UHF Radio Communication System		●	
Other Requirements			
Cable Terminations	●		
Equipment and Cable Labeling	●		
Testing and Certifications	●		
System Warranty	●		

END OF SECTION D6000.00

SECTION C1030.00

INTERIOR DOORS

PERFORMANCE

A. Basic Function

1. Equip all openings in partitions that function to allow passage of people, vehicles, and goods, so that openings can be closed and secured when not in use, using components as specified.
2. Where interior door elements also must function as elements defined within another element group, meet requirements of both element groups; interior doors function as partition elements when doors are closed.
3. Brand Names: Where brand names are listed, they represent the Basis of Design unless those items are identified as approved proprietary items in project requirements.

B. Amenity and Comfort

1. Acoustical Performance
   a. Provide in-place FSTC values for partitions with interior doors that are not less than NIC values specified for interior construction.
2. Convenience
   a. Dimensions: Provide interior doors that are sized appropriately for people, vehicles, and goods likely to move between adjacent spaces.
      (1) Height: Not less than 84 inches in height.
      (2) Width: Not less than 36 inches in width, except for doors to shallow closets.
      (3) For doors in masonry walls, provide overall door and frame dimensions that conform to masonry dimensions and coursing. Locate doors to minimize cutting of masonry units.
   b. Closing Devices: Required on all doors; provide smooth closing motion, with slower latching speed than closing speed (no slamming).
3. Appearance
   a. Provide interior doors coordinated with adjacent wall surfaces, using coordinated materials, colors, and textures.

C. Health and Safety

1. Fire Safety: Protect door openings in fire-rated walls and partitions in accordance with codes and the following:
   a. Hold-Open Function: Where required by code or indicated, provide wall mounted hold-open function device that allows the door to swing freely and that automatically closes door upon initiation of alarm.
   b. Closers: Sufficient closing force to close and latch door despite drafts and wind, but not more than that specified by code.

2. Emergency Egress: Where doors must be latched or locked, comply with the code and the following.
   a. Locking devices requiring a key for egress: Not permitted.
   b. Where required by codes or referenced standards, provide code-compliant exit hardware that releases the locking/latching mechanism upon the application of a force in the direction of egress travel.
3. Physical Security
   a. <u>Interior Vestibule Doors and Storefront at Main Entrance</u>
      (1) <u>Provide aluminum security doors, frame, surrounding storefront and glazing system.</u>
      (2) <u>Basis of Design: Armortex 44/350 door and frame system and 44/450 storefront system with UL listed Level 3 glass-clad polycarbonate glazing; factory finish in custom colors as indicated.</u>
   b. Locksets: Secure each room door using a keyed lockset that allows exit from inside using only one motion.
      (1) Exceptions
         (a) The following must not have any locking feature at all:
            (i) Doors into exit stairwells.
            (ii) Doors across corridors that impede egress.
         (b) The following may have privacy lock function (without key):
            (i) Doors to water closet compartments, shower compartments, or single person restrooms.
      (2) Keys: As specified in Section B2050.00.
         (a) Keying: Key to the district's existing keying system.
         (b) Key changing: All locks changeable without disassembly of lock cylinders; acceptable methods include interchangeable removable core cylinders.
         (c) Keymaking restrictions: Key blanks and keymaking restricted to owner.
      (3) Locking Functions: Appropriate to the space location and function.
         (a) Provide the services of a Door and Hardware Institute Architectural Hardware Consultant to schedule lock functions in accordance with district hardware standards.
         (b) Provide "Intruder" lock function at all classrooms and pupil occupied spaces.
         (c) Provide exit devices at all stairs and pairs of doors servicing occupied spaces.
         (d) Exterior Doors: See Section B2050.
   c. Provide code-compliant factory preparation for all security and alarm components, including wiring, in interior doors, frames and hardware.

d. Glazing in doors: Comply with all code and project requirements for fire ratings, safety glazing, security, and forced entry.

(1) Provide security glazing in doors and/or sidelights, with standard frames, at the following locations:

(a) Pre-K Classroom doors.

(b) Classroom doors.

(c) Reading Recovery, OT/PT, Basic Skills, Resource Room, Speech, Science Lab, Art Room, Technology Lab, Media Center, Cafeteria and Gymnasium.

D. Structure

1. Lintels: Constructed to span door openings and support loads imposed by exterior wall with maximum deflection vertically and horizontally of 1/240 of span.
2. Door Frames: Constructed to span door opening with maximum deflection vertically and horizontally of 1/240 of span.

E. Durability

1. 1. Wear Resistance
   a. Door Surfaces: Scuff-resistant kick plates and mop plates in areas where foot impact is likely; highly scratch-resistant in areas where hand contact is likely; mechanically fastened applied protective surfaces for vulnerable areas are acceptable.
   b. Door Handles and Knobs: Brushed/Satin Stainless finish unless otherwise noted; highly scratch-resistant and of finish that will minimize appearance changes due to wear; no plated or coated finishes.
2. Flexible Seal Materials: Select materials and design to minimize deterioration due to operation of doors and aging.
3. Swinging Doors: Control door swing to prevent damage due to impact, to either door or element impacted.

F. Operation and Maintenance:

1. Ease of Use and Repair: Provide doors that will be easy to use by occupants, easy to repair or service, and with operating components easy to replace.
2. Life Span of Operating Components: Remaining operable for service life of enclosure elements specified in Section B20 under normal exposure conditions for the project site.

PRODUCTS

A. Proprietary Specifications

1. The following products or manufacturers have been approved by the Authority for proprietary specification and use in this Project:
   a. Exit devices: Corbin.
   b. Door closers: LCN.
   c. Locksets and keying: Schlage (Primus System).

2. Subject to compliance with codes and all project requirements, the Design-Builder is required to use the indicated products or manufacturers and to verify compatibility with the school district's existing systems.

B. Interior Pedestrian Doors
   1. Use one of the following:
      a. Hollow steel flush doors and frames at utility and maintenance areas.
      b. Solid-core flush wood doors for all other areas.
      c. Glazed aluminum doors of heavy wall design at entrances and vestibules.

C. Interior Coiling Doors and Counter Doors
   1. Use the following:
      a. Overhead coiling doors and counter doors.

D. Closet Doors
   1. Use the following:
      a. Flush wood doors.

E. Door Frames
   1. Use the following:
      a. Steel frames.

F. Sills
   1. Use the following:
      a. Stone at toilet rooms and locker rooms.

G. Glazing in Doors
   1. Use one of the following:
      a. Fully tempered glass.
      b. Laminated glass.
      c. Ceramic glass meeting impact requirements at fire rated doors.
      d. Security glazing where specified.
   2. Interior vestibule doors and storefront at main entrance: 1.05" ballistic level 3 glazing.
   3. Basis of Design for security glazing at other locations: ¾" ArmorProtect Plus by Oldcastle.
   4. Provide blackout shades for glazing in doors or sidelights at classroom toilet room doors and classroom doors.

H. Door Louvers
   1. Louvers in Metal Doors: Same material as doors.
   2. Louvers in Wood Doors: Use one of the following:

a. Steel louvers.

b. Wood louvers.

I. Hardware for Swinging Doors

1. Use Satin Stainless finish, BHMA 630, US32D.
2. Use fire-rated, UL listed hardware on fire-rated doors. Provide UL listing on all appropriate frame and hardware locations.
3. Hinges: Ball-bearing butt hinges or continuous hinges.
4. Exit Devices: Unless specifically indicated, provide surface-applied vertical rod.
5. Locksets: Unless specifically indicated as one type, mortise or bored (cylindrical).
   a. Do not use rim type auxiliary locks, lock combinations requiring two hands for operation, or interconnected locks.
6. Door Closers: Unless specifically indicated as one type, surface overhead door-mounted type.
   a. Do not use concealed overhead type, floor mounted type, or spring hinges.
7. Door Stops: Unless specifically indicated as one type, floor-mounted type, wall-mounted type, or overhead door/frame mounted type.
   a. Provide door stops at all locations where door swing may hit a wall or other fixed object, or where extended door swing may damage door or hardware.
   b. Do not use floor-mounted door stops where they present a trip hazard.
8. Door Hold-Opens: Unless specifically indicated as one type, provide magnetic wall-mounted type.
   a. Do not use floor-mounted type, overhead-mounted type, or hold-open feature in closer alone without a separate stop.
9. Protection: Provide mechanically fastened stainless steel push plates and/or kick plates at locations subject to service use or use by wheeled carts or heavy usage.
10. Gaskets and Sweeps: Provide gaskets and sweeps to provide thermal, fire and smoke, and acoustical isolation as required by code and project requirements.
    a. Provide aluminum gaskets and sweeps with concealed mechanical fasteners and replaceable brushes and seals.
    b. Basis of Design
       (1) Perimeter gaskets: Pemko 29310CP or 29344CSB
       (2) Sweep: Pemko 293100CNB

J. Frames

1. Provide steel frame construction to comply with Steel Door Institute standards for interior applications.
2. The face width of all frames for doors, transoms, sidelights and borrowed lights shall be 2 inches.

3. Minimum frame gauges shall be 16-gauge.
4. Frames shall be welded one-piece unit types.
5. Removable glazing stops shall be applied with cadmium-plated, small head Jackson screws. Removable stops shall be located on the secure side of controlled access openings.
6. Frames shall be accurately formed to indicated profiles and assembled with hairline joints. Faces shall be mitered at corners. Corners shall be continuously back-welded full depth and width of frame. Exposed welds shall be ground smooth. Final assembly shall be square and true, with no evidence of welds on exposed faces.
7. Knock-down frames will not be accepted.
8. Frame material shall be mortised, reinforced, drilled and tapped for all mortise hardware using templates that the hardware supplier provides. Steel reinforcements, welded to frames, shall be provided at hinge and pivot reinforcement (3/16" x 1-1/2" x 9"); closer and holder locations (12 gauge x 14" by frame width) and floor clips (16 gauge x 3-1/2").
9. Provide frames at masonry openings with adjustable, 18-gauge, UL type masonry anchors, minimum of three per frame at each jamb. Maximum spacing shall not exceed 6" at center.
10. Provide caulking stops, filler pieces and trim where required, integrally formed as part of the frame.
11. Provide three mechanically fastened rubber silencers at the strike jambs for all door frames.
12. Provide factory-fabricated cutouts and reinforcing for security devices as required.

K. Door Security Access System Requirements

1. Coordinate hardware and software with district requirements.
2. Proximity Card readers: Provide card readers as identified in Finish Hardware Schedule locations.
3. Proximity key tags – provide quantity as required by district.
4. Controller shall be coordinated with district requirements.
5. Satellite Expansion Board – verify requirements with district.
6. Power supply shall be provided for all equipment.
7. Provide door position switches per district requirements.

L. Finish Hardware Schedule

1. Basis of Design: The following hardware schedule represents the Basis of Design. Where an approved proprietary specification lists a product or manufacturer different from the product or manufacturer indicated below, comply with the proprietary specification and provide an item equivalent in performance to that listed below.
2. Not every type of hardware set that may be required is indicated on this schedule; nor is every necessary hardware component indicated. See also additional information on Design-Build drawings. A complete door and hardware schedule, including all door

openings and hardware components, shall be provided at the Preliminary Design phase for the Authority's approval.

a. **HARDWARE SET #1:** Active Leaf – Doors at interior entrances, Main Office, Multi-Purpose Room entrance, Cafeteria entrance, and other locations as noted.

   (1) Continuous hinge – Markar FM 300 edge mount stainless steel continuous hinge.

   (2) Exit Device (1) – BEST Apex FL2200 fire exit series Surface Vertical Rod Exit Device with BEST Apex 2110 rim device and 1E72 rim cylinder.

   (3) Concealed door closer (1) – LCN 2016 concealed door closer.

   (4) Overhead stop with holder (1) – Glynn-Johnson 80 Series HD.

   (5) Lockset (1) – BEST Apex 4900 A "A" lever.

   (6) Actuator – ADA wall or pedestal mounted door actuator at Interior Entrance Lobby Door only.

   (7) Silencers – (3) Ives SR64 door silencers per door.

   (8) Power transfer – power transfer to be provided.

   (9) Power supply – coordinate power supply requirements with all designated equipment.

   (10) Mounting plate – provide if required by manufacturer.

   (11) Kick plate – door mounted kick plate to match door material and finish.

   (12) Electric Strikes – provide per hardware requirements.

   (13) Door Opening

      (a) Keyed removable mullions

      (b) Threshold: ADA aluminum threshold, 6" x total door width.

      (c) Weatherstripping: Manufacturer's standard.

      (d) Proximity Card reader: Verify location with district requirements.

b. **HARDWARE SET #1A:** Inactive Leaf – Doors at interior entrances, Main Office, Multi-Purpose entrance, Cafeteria entrance, and other locations as noted

   (1) Continuous hinge – Markar FM 300 edge mount stainless steel continuous hinge.

   (2) Exit Device (1) – BEST Apex FL2200 fire exit series Surface Vertical Rod Exit Device with BEST Apex 2110 rim device and 1E72 rim cylinder.

   (3) Concealed door closer (1) – LCN 2016 concealed door closer.

   (4) Overhead stop with holder (1) – Glynn-Johnson 80 Series HD.

   (5) Lockset (1) – BEST Apex 4900 A "A" lever.

   (6) Silencers – (3) Ives SR64 door silencers per door.

   (7) Mounting plate – provide if required by manufacturer.

   (8) Kick plate – door mounted kick plate to match door material and finish.

c. **HARDWARE SET #2:** Each Door - Stair doors, and other doors without cylinders

(1) Butts (1 ½ pair/each) – McKinney T4B3386, 6" x 5".

(2) Exit Device (1) – BEST Apex FL2200 fire exit series Surface Vertical Rod Exit Device with BEST Apex 2100 rim device and 1E72 rim cylinder.

(3) Surface mounted door closer (1) – LCN 4040 mounted with Extra Duty Arm 4040XP with EDA arm.

(4) Overhead stop with holder (1) – Glynn-Johnson 80 Series.

(5) Lockset (1) – Best 93 series heavy duty lock, N Function passage lock.

(6) Silencers – (3) Ives SR64 door silencers per door.

(7) Mounting plate – provide if required by manufacturer.

(8) Kick plate – door mounted kick plate to match door material and finish.

d. **HARDWARE SET #3:** Doors at Storage Rooms, Closets, Mechanical and Electrical Rooms, and Utility Rooms

(1) Butts (1 ½ pair/each) – McKinney T4B3386.

(2) Surface Mounted Door closer – (1) – LCN 4040 mounted with extra Duty Arm 4040XP with EDA arm.

(3) Lockset (1) – Best 93 series heavy duty locks, D Function Storeroom lockset.

(4) Overhead Stop with Holder (1) – Glynn Johnson 80 Series.

(5) Silencers – (3) Ives SR64 door silencers per door.

(6) Mounting plate – provide if required by manufacturer.

(7) Kick plate – door mounted kick plate to match door material and finish.

e. **HARDWARE SET #4:** Main Office Door

(1) Butts (1-1/2 pair) – McKinney TSB3386.

(2) Surface Mounted Door Closer – (1) LCN 4040 mounted with extra Duty Arm 4040XP with EDA Arm.

(3) Lockset (1) – Best EXBV Series BASIS V, proximity card reader, TV Function deadbolt w/key override; mortise lock.

(4) Overhead Stop with Holder (1) – Glynn Johnson 80 Series.

(5) Silencers – (3) Ives SR64 door silencers per door.

(6) Mounting plate – provide if required by manufacturer.

(7) Kick plate – door mounted kick plate to match door material and finish.

f. **HARDWARE SET #5:** Doors at individual faculty Toilet Rooms

(1) Butts (1 ½ pair/each) – McKinney T4B3386.

(2) Surface Mounted Door closer – (1) – LCN 4040 mounted with extra Duty Arm 4040XP with EDA arm.

(3) Lockset (1) – Best 93 series heavy duty locks, L Function Privacy lockset.

(4) Overhead Stop with Holder (1) – Glynn Johnson 80 Series.

(5) Silencers – (3) Ives SR64 door silencers per door.

(6) Mounting plate – provide if required by manufacturer.

(7) Kick plate – door mounted kick plate to match door material and finish.

g. **HARDWARE SET #6:** Doors at multi-user Toilet Rooms

(1) Butts (1 ½ pair/each) – McKinney T4B3386.

(2) Surface Mounted Door closer – (1) – LCN 4040 mounted with extra Duty Arm 4040XP with EDA arm.

(3) Push Plate

(4) Pull

(5) Overhead Stop with Holder (1) – Glynn Johnson 80 Series.

(6) Silencers – (3) Ives SR64 door silencers per door.

(7) Mounting plate – provide if required by manufacturer.

(8) Kick plate – door mounted kick plate to match door material and finish.

h. **HARDWARE SET #7**: Classroom Doors

(1) Butts (1 ½ pair/each) – McKinney T4B3386.

(2) Surface Mounted Door closer – (1) – LCN 4040 mounted with extra Duty Arm 4040XP with EDA arm.

(3) Lockset (1) – Best 93 series heavy duty locks, INA Function Intruder lockset.

(4) Overhead Stop with Holder (1) – Glynn Johnson 80 Series.

(5) Silencers – (3) Ives SR64 door silencers per door.

(6) Mounting plate – provide if required by manufacturer.

(7) Kick plate – door mounted kick plate to match door material and finish.

(8) Hinge Guard – provide hinge guard.

i. **HARDWARE SET #8:** Toilet Rooms at Pre-K and Kindergarten Classrooms

(1) Butts (1-½ pair/each) – McKinney T4B3386.

(2) Surface Mounted Door closer – (1) – LCN 4040 mounted with extra Duty Arm 4040XP with EDA arm.

(3) Lockset (1) – Best 93 series heavy duty locks, N Function Passage lockset.

(4) Overhead Stop with Holder (1) – Glynn Johnson 80 Series.

(5) Silencers – (3) Ives SR64 door silencers per door.

(6) Mounting plate – provide if required by manufacturer.

(7) Kick plate – door mounted kick plate to match door material and finish.

(8) Hinge Guard – provide hinge guard.

j. **HARDWARE SET #9:** Cafeteria

(1) Butts (1-½ pair/each) – McKinney T4B3386.

(2) Surface Mounted Door closer – (1) – LCN 4040 mounted with extra Duty Arm 4040XP with EDA arm.

(3) Lockset (1) – Best 93 series heavy duty locks, S Function Storeroom lockset.

(4) Overhead Stop with Holder (1) – Glynn Johnson 80 Series.

(5) Silencers – (3) Ives SR64 door silencers per door.

(6) Mounting plate – provide if required by manufacturer.

(7) Kick plate – door mounted kick plate to match door material and finish.

(8) Acoustical gasket

k. **HARDWARE SET #10:** Doors at Music Rooms, Gymnasium, Cafeteria, and Multi-Purpose Room to Corridors

(1) Butts (1-1/2 pair) – McKinney TSB3386.

(2) Surface Mounted Door Closer – (1) LCN 4040 mounted with extra Duty Arm 4040XP with EDA Arm.

(3) Lockset (1) – Best EXBV Series BASIS V, proximity card reader, TV Function deadbolt w/key override; mortise lock.

(4) Exit Device (1) – Apex FL2200 fire exit series Surface Vertical Rod Exit Device with Apex 2110 rim device and 1E72 rim cylinder.

(5) Overhead Stop with Holder (1) – Glynn Johnson 80 Series.

(6) Silencers – (3) Ives SR64 door silencers per door.

(7) Mounting plate – provide if required by manufacturer.

(8) Kick plate – door mounted kick plate to match door material and finish.

(9) Acoustical Gasket

l. **HARDWARE SET #11**: Corridor to Roof Access

(1) Butts (1 ½ pair/each) – McKinney T4B3386.

(2) Surface Mounted Door closer – (1) – LCN 4040 mounted with extra Duty Arm 4040XP with EDA arm.

(3) Lockset (1) – Best 93 series heavy duty locks, G Function Communicating lockset.

(4) Overhead Stop with Holder (1) – Glynn Johnson 80 Series.

(5) Silencers – (3) Ives SR64 door silencers per door.

(6) Mounting plate – provide if required by manufacturer.

(7) Kick plate – door mounted kick plate to match door material and finish.

METHODS OF CONSTRUCTION

A. Use the following:

1. Aluminum Doors: see Section B2050.00.
2. Steel Doors
   a. Grade: ANSI A250.8-1998.
      (1) Fire Doors and Stairwell Doors: Level 3, Model 2, Seamless (16 gage).
      (2) Interior Doors: Level 3, Model 1, Full Flush (16 gage).
   b. Finish: Prime painted, unless otherwise indicated.
      (1) Doors at Kitchens and Other Wet Areas: Galvanized G60/Z180 per ASTM A 653/A 653M-2006a.
   c. Factory-prepare and reinforce for hardware specified in accordance with Standard; coordinate with Door Hardware Schedule.
   d. Install in accordance with ANSI A250.6-1997 and ANSI A250.11-2001.
3. Steel Door Frames: Welded corner type.
   a. Grade: ANSI A250.8-1998, gage as required by Standard for the grade steel door specified; provide anchors as specified by Standard.
   b. Finish: Prime painted, unless otherwise indicated.
      (1) Doors at Kitchens and Other Wet Areas: Galvanized G60/Z180 per ASTM A 653/A 653M-2006a.
   c. Factory-prepare and reinforce for hardware specified; coordinate with Door Hardware Schedule.
   d. Fire-Rated Frames: UL listed and labeled.
4. Wood-Veneered Flush Wood Doors
   a. Grade: Architectural Woodwork Institute - AWI/AWMAC (QSI) -2006 Custom Grade for transparent finish.
   b. Construction: Provide doors and frames with UL label where required and with internal blocking for surface mounted hardware (5-1/2” top blocking; 10” lock blocking sets and exit devices).
      (1) Fire Doors Rated Over 20 Minutes: FD-5.
      (2) 20 Minute Rated Doors: PC-5.
      (3) Other Interior Doors: PC-5.
      (4) Beveled meeting stiles.
   c. Veneer: Oak, red.
      (1) Cut: Rift cut.
      (2) Provide stile edge banding on doors with transparent finish to match face veneer.
   d. Finish: Factory-applied, TR-6 Catalyzed polyurethane.

e. Accessories: As required by code, AWI grade, or as indicated on drawings, including wood glazing stops.

f. Warranty: Lifetime.

END OF SECTION C1030.00

SECTION G2030.00

PEDESTRIAN PLAZAS AND WALKWAYS

PERFORMANCE

A. Basic Function

1. Provide pedestrian plazas and walkways as required by the project program and by code, and that are adequate in extent and sufficiently durable to accommodate without damage the types of traffic that can be reasonably anticipated for the facility type and intended user population.
2. Pedestrian plazas and walkways comprise the following elements:
    a. Exterior plazas and walkways, including surfaces beneath playground surfacing.
    b. Exterior steps and ramps not connected to buildings, including handrails and stair nosings.
    c. Pedestrian pavement curbs and gutters.
    d. Appurtenances for plazas and walkways, including pavement markings and tactile warning strips.
3. Pedestrian plazas and walkways include the following:
    a. Uncolored concrete pavement.
    b. Integrally colored (tinted) concrete pavement.
    c. Heavy-duty concrete pavement, uncolored.
    d. Concrete street curbs.
    e. Mountable concrete curbs.
    f. Depressed (drop) curbs (ramps) for vehicles and pedestrians.
    g. Stone (granite) curbs and pavers.
4. Walkways, pedestrian ramps, and exterior stairs: Provide paved surfaces as required for pedestrian movement on the site without injury to users or damage to building, landscaping, site furnishings, fencing and appurtances.
    a. Minimum widths: Sized to allow comfortable two-way traffic.
        (1) Main Entrance: 144 in.
        (2) Secondary Entrances and Emergency Exits: 60 in.
        (3) Major Routes: 60 in.
        (4) Secondary Routes: 48 in.
    b. Handrails, railings, or protective walls: Required when pedestrian surfaces are more than 16 in above adjacent grade.
5. Where pavements and surfacing are integral with elements defined within another element group, meet requirements of both element groups.

6. Brand Names: Where brand names are listed, they represent the Basis of Design unless those items are identified as approved proprietary items in project requirements.
7. See Paragraph G, Environmental Impacts, in Section G0000.00, Sitework, for environmental requirements and restrictions.

B. Amenity and Comfort
   1. Accessibility
      a. Comply with all codes requiring barrier-free access.
      b. Sloped pedestrian walkways and ramps: To the maximum extent possible, avoid pedestrian walkways with slopes greater than 1:20. Where greater slopes are necessary, provide code-compliant pedestrian ramps.
      c. Avoid exterior steps to the maximum extent possible. Do not use individual risers.
   2. Stair Comfort
      a. Steepness: Provide code-compliant exterior stairs with risers of not more than 6 inches in height.
      b. Landings: Provide exterior stairs with maximum rise of not more than 8 ft between landings.
   3. Appearance
      a. Pedestrian stairs, ramps, and walkways: Provide pedestrian walking surfaces that contrast with vehicular paving and achieve a smooth, consistent appearance.
      b. Railings, handrails, guardrails, and protective walls: Provide materials and finishes that are consistent with building exterior in appearance.

C. Health and Safety
   1. 1. Safety of Pedestrian Surfaces
      a. Slip resistance: Provide walking surfaces of exterior stairs, ramps, and walkways in compliance with code, and with a minimum static coefficient of friction of 0.80, measured in accordance with ASTM D2047-2004.
      b. Stairs
         (1) Risers: Closed.
         (2) Treads: Maximum bevel or radius on leading edge of 1/2 inch in, slope to drain.
      c. Guards, Guardrails, or Protective Walls
         (1) Openings: No openings large enough for a sphere with a diameter of 4 in. to pass through.
         (2) Minimum height: In accordance with code.
      d. Pedestrian ramps at drop curbs - all locations
         (1) Provide code-compliant detectable warning surface tiles with high levels of luminance contrast and conspicuity for pedestrians with visual impairment.
         (2) Provide detectable warning surface tiles that will sustain dynamic vehicle loading based on AASHTO HS20-44 wheel load test.

(3) Basis of Design: Armor-Tile cast-in-place vitrified polymer composite (VPC) detectable/tactile warning surface tile, with inline tactile truncated dome surface, and integral embedment flange anchoring system as manufactured by Engineered Plastics Inc., Williamsville, NY.

(a) Size: Minimum 2'-0" x 3'-0".

(b) Depth: 1-3/8".

(c) Face thickness: 3/16".

(d) Color: Federal Yellow (No. 33538).

D. Structural

1. Exterior stairs, ramps, and elevated walkways: Capable of supporting loads in excess of those required by code.
2. Exterior handrails, guards, and guardrails: Capable of resisting forces in excess of those required by code.

E. Durability

1. Service life span of paved surfaces: 25 years, under normally anticipatable usage.

PRODUCTS

A. Pedestrian Areas

1. Use any of the following:
   a. Uncolored concrete pavement.
   b. Integrally colored (tinted) concrete pavement.
   c. Heavy-duty concrete pavement, uncolored.
   d. Stone (granite) pavers.
   e. Concrete street curbs.
   f. Mountable concrete curbs.
   g. Depressed (drop) curbs (ramps) for vehicles and pedestrians.
   h. Stone (granite) curbs.
2. Do not use the following:
   a. Concrete pavers.
   b. Asphalt pavers.
   c. Brick pavers.
   d. Stamped asphalt.
   e. Stamped concrete.

B. Exterior Handrails and Guardrails

1. Provide ASTM A 53/A 53M, Type F or Type S, Grade A, Standard Weight (Schedule 40) steel pipe, unless another grade and weight are required by structural loads.
2. Weld and grind all joints smooth.
3. Provide galvanized tamper-proof inserts, sleeves and other anchorage devices for connecting railings to concrete or masonry work.
4. For railings set in concrete, provide sleeves at least 6" in depth and ½" greater in diameter than railing. Set with nonshrink, nonmetallic grout designed for exterior applications.
5. Provide factory galvanizing and high-performance finishing in custom colors.

C. Areas Beneath Exterior Sport and Resilient Surfacing

1. Use any of the following:
   a. Asphalt paving reinforced with geotextile.

D. Pedestrian Pavement Curbs and Gutters

1. Stone curbs.
   a. Basis of Design: Granite vertical street (highway) type curb as manufactured by Swenson Granite Works, Newtown, CT.
      (1) Granite curb color: standard grey.
   b. Granite curb shall be free of seams that impair its structural integrity, and is to be supplied in random lengths from 3'-0" to 10'-0". Granite curbing shall meet the following criteria:
      (1) Bulk density: ASTM C-97.
      (2) Absorption: ASTM C-97.
      (3) Compressive Strength: ASTM C-170.
      (4) Modulus of rupture: ASTM C-99.
   c. Granite curb dimensions: Granite curb is to be 4" in width, with the front arris line straight and true, with no variations greater than 1/8" measured from a two (2) ft. straightedge placed along the front arris line. The depth shall be a minimum of 17" measured from the top arris line to the bottom arris line, and shall have a tolerance of plus or minus 1".
   d. Granite curb top finish: Sawn to a true plane with no projections or depressions greater than 1/8". Visible saw marks are permissible.
   e. Granite curb face finish: Smooth quarry split face which is at right angles to the plane of the top, with no projections greater than ¾" or depressions greater than ½" above grade line, measured from the vertical plane of the face through the top arris line, and no projections or depressions of greater than 1" below the grade line.
   f. Granite curb back finish: Back surfaces shall be dressed, with no projections or depressions greater than ¼" for a distance of 4" from top arris. The remainder of the

back face shall have no projections or depressions exceeding a batter of one inch in three inches.

g. Granite curb end finish: Ends of curbs at joints shall be approximately square with the planes of the exposed curb faces, and shall be sawn or hand-trimmed so that when the curbs are set, no space greater than ½" shall show for the full length and width of the joint. The curb ends below grade will be allowed to break back no more than 4".

h. Granite curb reveal: 6" typical.

i. Granite curb installation: Granular fill shall be placed and uniformly compacted to form a sub-base, and grade lines shall be strung for the entire length of all granite curb sections to allow for a visual inspection prior to installation. Stiff concrete shall be placed so as to surround every granite curb joint, end and intersection location, and shall be troweled smooth to ease installation of the vertical tree root barrier within the tree pits and tree trench. Note: Exercise extreme care to avoid any contact of concrete, especially tinted concrete, with the exposed faces of the granite curbing during placement and finishing.

j. Granite curb joints: Pre-molded expansion joints shall be installed every thirty (30) linear ft. maximum. Joints shall be mortared, slightly recessed and tooled. Dowels are not required. Mortar shall be composed of equal parts of cement and clean mason sand with sufficient water to make a mix of workable consistency. The materials shall conform to the requirements of ASTM C91 and C144. Note: Exercise extreme care to avoid any contact of mortar with the exposed faces of the granite curbing during placement and finishing.

E. Integrally colored (tinted) concrete pavement

1. Where indicated, provide integrally colored pavement in colors to be determined.

a. Colored admixture: Comply with manufacturer's written instructions. Deliver colored admixtures in original unopened packaging.

b. Conform to the American Concrete Institutes ACI 304 Recommended Practice for Measuring, Mixing, Transporting and Placing of Concrete, ASTM C494 Standard Specification for Chemical Admixtures for Concrete, and ASTM C979 Standard Specification for Pigments for Integrally Colored Concrete.

c. Supplemental admixtures shall not be used unless approved by the manufacturer of the colorant. Do not add calcium chloride to the concrete mix as mottling and surface discoloration will occur.

d. Finish: Do not over trowel or burnish the surface, and provide a consistent broom finish. Note: Extreme care shall be exercised to prevent any concrete, especially tinted concrete, from contacting the exposed faces of adjacent materials and finishes during placement and finishing.

END OF SECTION G2030.00

SECTION G2050.00

ATHLETIC, RECREATIONAL AND PLAYFIELD AREAS

PERFORMANCE

A. Basic Function

1. Provide athletic, recreational and playfield areas as required by the project program and by code, and that are adequate in extent and sufficiently durable to accommodate without injury to users or damage the types of activities that can be reasonably anticipated for the facility type and intended user population.
2. Athletic, recreational and playfield areas comprise the following elements:
    a. Exterior playground area sports (court) surfaces.
    b. Pre-K and Kindergarten resilient playground surface.
    c. Artificial turf at soccer field.
    d. Artificial turf mounds within the resilient playground surface.
    e. Miscellaneous painted ground games and graphics.
3. Sports surfacing: Provide smooth, seamless, and/or resilient surfacing for athletic activities that have positive surface drainage throughout, and are attractive, non-toxic and low maintenance.
4. Pre-K/Kindergarten Playground resilient surfacing: Provide smooth and resilient surfacing complying with CPSC Pub. No. 325 under and around playground equipment including climbing equipment, slides, merry-go-rounds, balance beam, etc.
5. Brand Names: Where brand names are listed, they represent the Basis of Design unless those items are identified as approved proprietary items in project requirements.

B. Amenity and Comfort

1. Thermal comfort: Provide pavements and surfacing at parking lots with minimum initial reflectivity of 0.3 to reduce solar heat gain.
2. Accessibility
    a. Comply with all codes with respect to requirements for barrier-free access.
3. Appearance
    a. Exterior Sports Surfacing at basketball court, running track, kickball field, four square and other miscellaneous ground games and graphics: Provide surfaces that are smooth and colorful, and contrast with adjacent asphalt surfaces and modular concrete walls.
4. Resilience: Provide exterior sports surfacing with inherent flexibility and resilience appropriate for the intended uses and as follows:
    a. At Pre-K/Kindergarten Playground Equipment: Critical height of not less than 4 ft., when measured in accordance with ASTM F 1292-2004 in the Use Zones defined by ASTM F 1487-2005.

C. Health and Safety

1. Safety of Surfaces

a. Slip Resistance: Provide walking surfaces with a minimum static coefficient of friction of 0.80, measured in accordance with ASTM D 2047-2004.

2. Comply with the following:

a. ASTM D412 Standard Test Method for Vulcanized Rubber.

b. ASTM D624 Standard Test Method for Tear Strength of Conventional Vulcanized Rubber.

c. ASTM D2859 Standard Test Method for Flammability of Finished Textile Floor Covering Materials.

d. ASTM F1292 Standard Specification for Impact Attenuation of Surface Systems Under and Around Playground Equipment.

e. ASTM F1951 Standard Specification for Determination of Accessibility of Surface Systems Under and Around Playground Equipment.

PRODUCTS

A. Exterior Sports Surfacing

1. Basis of Design: SportMaster ColorPlus four-coat acrylic emulsion court surface system manufactured by ThorWorks Industries, Inc., Sandusky OH.

a. Apply to new asphalt surface that has cured for a twenty-eight day period after installation and that is entirely free of dirt, dust and debris.

b. Do not apply when surface temperature is below 50 degrees F.

c. Apply surface system in strict accordance with the manufacturer's instructions and requirements.

d. First coat: Acrylic Resurfacer with Sand (CMT-33).

e. Second coat: Neutral Concentrate with Sand (CMT-40) mixed with ColorPlus Concentrate (CMT-39).

f. Third coat: Neutral Concentrate with Sand (CMT-40) mixed with ColorPlus Concentrate (CMT-39).

g. Fourth coat: Sport Wax Sealer (CMT-18).

(1) Note: All line striping and other painted graphics and games are to be completed prior to the application of the Sport Wax sealer.

h. All exposed asphalt within the playground area: Acrylic Resurfacer with Sand, color: BLACK.

i. The second and third coats shall be the following colors at the following locations:

(1) Kickball field: Grass "infield" Area, color: LIGHT GREEN.

(2) Kickball field "outfield" and "sidelines" (between the baselines and the inner circumference of the surrounding running track) color: FOREST GREEN.

(3) Kickball baselines, including pitcher's "mound" and the batter's circle, color: BEIGE.

(4) Kickball bases, pitcher's rubber and home plate to be painted solid white. The outlines of the batter's boxes are to be stripped WHITE.

(5) Running track, color: RED with 2" wide WHITE stripes included within the 4'-0" lane widths.

(6) Basketball court, color: BLUE with painted regulation striping color: WHITE.

(7) Four-square colors: Two opposing squares shall be ORANGE and RED. The second pair of opposing squares shall be YELLOW and LIGHT GREEN. Squares shall be defined by 2" wide painted WHITE stripes, and identified by minimum 1 ft. tall stenciled capital letters A, B, C and D also painted WHITE.

(a) The letters A and D must oppose each other.

(b) The Four-square game court is located within a field of BLUE to match the adjoining half-court basketball courts.

(8) The large rainbow graphic in the outdoor classroom area, colors: RED, ORANGE, YELLOW, LIGHT GREEN and BLUE.

(a) The last two colors of the rainbow, Indigo (Blue Violet) and Violet (Purple), may require the manufacturer's assistance to accurately achieve, either by utilizing stock colors such as TOURNAMENT PURPLE, by mixing two or more stock colors or by producing a custom color(s) to accurately represent those colors of the rainbow.

j. Layout of all courts, shapes and lines shall be accurately laid out, drawn and masked, and in conformance with the requirements of each court or activity.

B. Pre-K & Kindergarten Resilient Playground Surface

1. Basis of Design: PlayBound Poured-in-Place system as manufactured by Surface America, Williamsville, NY.

a. Apply to new asphalt surface that has cured for a twenty-eight day period after installation and that is entirely free of dirt, dust and debris.

b. Do not apply when surface temperature is below 50 degrees F.

c. Apply surface system in strict accordance with the manufacturer's instructions.

d. Except as noted, the color of the EPDM top surface shall be a 50/50 blend of two (2) standard colors: SKY BLUE and TEAL.

(1) Inside the Trike Path, the color shall be 75% SKY BLUE and 25% TEAL.

e. Install seamless poured-in-place resilient playground top (wear) course to cover all storm drainage inlets within the limits of the resilient surface. Cover all storm drainage inlets with a single layer of approved permeable geo-textile fabric prior to installation of the resilient playground surface.

C. Artificial Turf Mounds

1. Basis of Design: PlayBound TurfTop, as manufactured by Surface America, Williamsville, NY.
2. Provide 2" minimum pile height, drainage system, stone subgrade and granular infill in accordance with manufacturer's recommendations.
3. Turf mounds
    a. Create mounds of varying shapes, sizes, and heights as indicated on the Site Plan. The mounds shall vary in height relative to adjacent mounds, with highest points between 18 and 24 inches.
    b. Cover artificial turf mounds with artificial turf, without granular infill.

D. Miscellaneous Painted Ground Games and Graphics

1. Basis of Design: 100% acrylic, VOC Compliant, lead free traffic and zone marking paint as manufactured by PPG Architectural Finishes, Inc., Pittsburgh, PA.
    a. Apply two coats of Zoneline Traffic and Zone Marking Paint to the asphalt surface that has already received one coat of BLACK Acrylic Resurfacer with Sand, and one coat of Stripe-Rite primer.
    b. For the three variations of hopscotch, the map of the United States and the alphabet snake graphics that are to be painted on the asphalt surface within the playground area, all four standard colors of traffic and zone paint shall be used: WHITE, YELLOW, Handicap BLUE and RED. In addition to the four standard colors, RED and a smaller amount of WHITE shall be field mixed to make Pink. Handicap BLUE and a smaller amount of WHITE shall be field mixed to make Light Blue. RED and YELLOW shall be field mixed to make Orange. RED shall be field mixed with a smaller amount of Handicap BLUE to make Purple.
    c. For the 8 ft. x 8 ft. outdoor chessboard to be painted on the asphalt surface within the playground area, standard colors of traffic and zone paint shall be used: WHITE and YELLOW. The BLACK Acrylic Resurfacer with Sand shall be the finish of the black squares, and the WHITE traffic and zone paint shall be applied to create the white squares. The outside perimeter of the outdoor chessboard is to be outlined by a 2" wide stripe of YELLOW traffic and zone marking paint to further define the chessboard from the surrounding asphalt surface.

E. Do not use the following within the playground area:

1. Concrete pavement.
2. Rubber interlocking tile system.

END OF SECTION G2050.00

SECTION G2060.00

SITE DEVELOPMENT

PERFORMANCE

A. Basic Function

1. Provide all fixtures, equipment (other than that associated with services), and miscellaneous structures located out-of-doors that are required by the project program and that are required as a result of these and other requirements.
2. Site fixtures and equipment that shall be provided include:
    a. Fences and Gates
        (1) Ornamental steel picket fence
        (2) Welded wire security fence.
        (3) Vinyl-coated chain link security fence
    b. Site Furnishings
        (1) Play equipment
        (2) Basketball backstops.
        (3) Bicycle racks.
        (4) Exterior shelter structure.
        (5) Exterior table and bench units.
        (6) Exterior benches.
    c. Flagpole and American Flag
    d. Site Specialties
        (1) Utility pipe bollards
        (2) Decorative security bollards
3. Where site fixtures and equipment elements also must function as elements defined within another element group, meet the requirements of both element groups.
4. Brand Names: Where brand names are listed, they represent the Basis of Design unless those items are identified as approved proprietary items in project requirements.

B. Health and Safety

1. Safety
    a. All site fixtures and equipment shall comply with applicable codes and standards for safety.
2. Accessibility
    a. All site fixtures and equipment shall comply with applicable codes and standards for barrier-free access.

C. Structure

1. All site fixtures and equipment shall be constructed of materials strong enough to resist forces generated by normal wear and tear and attempted forcible removal.
2. All concrete shall be 3500 psi unless otherwise noted.

D. Durability

1. Service Life
   a. Minor Site Structures: Same as for equivalent building elements.
   b. Other Fixed Site Improvements: 15 years under normal use and weather.
   c. Athletic Nets: 5 years under continuous weather exposure.

PRODUCTS

A. Fences and Gates

1. Provide the following:
   a. Decorative Steel Picket Fence
      (1) Basis of Design: Montage II, (ATF) Welded Steel Ornamental Fence, manufactured by Ameristar Fence Products, Tulsa OK; provide where indicated.
      (2) Steel material for fence panels shall conform to the requirements of ASTM A653/A653M with minimum yield strength of 45,000 PSI.
      (3) All steel shall be hot-dip galvanized, with a minimum hot-dip zinc coating weight of 0.90 oz./sq. ft. (coating designation of G-90).
         (a) All interior surfaces of tubes formed from uncoated steel sheet shall be hot-dip galvanized to meet the same standard.
      (4) The fence system shall be capable of meeting the vertical load, horizontal load, and infill performance for industrial weight fences under ASTM F2408.
         (a) Fence panels shall be capable of supporting a 400 lb. load applied at mid-span without permanent deformation.
      (5) Style: Genesis (G) (three rail standard – 4” nominal spacing).
      (6) Panel height: 6’-0”.
      (7) Panel length: 8’ (nominal).
      (8) Fence rails: 1-3/4” x 1 3/4” x 12 ga. tubing, with pre-punched picket holes spaced no more than 4.1715” o.c.
      (9) Fence pickets: 1" square x 14 ga. tubing. Pre-punched picket holes in the rails shall be spaced no more than 4.1715” o.c.
      (10) Posts
         (a) Line posts: minimum 2-1/2" high tensile galvanized steel square tube.
         (b) End, corner, and gate posts: minimum 3” x 3” high tensile galvanized steel square tube.
         (c) Post spacing shall not exceed manufacturer’s recommended spacing.

(11) Hardware: Tamper-resistant hardware supplied by the fence manufacturer.

(12) Finish: Manufacturer's inline electro-deposition epoxy/acrylic coating process complying with the coating performance criteria of ASTM F2408.

(a) Minimum cumulative coating thickness: 2 mils.

(b) Color: Bronze (N).

(c) Touch-up paint: Provide two aerosol cans of matching touch up paint.

(13) Field touch-up painting process: Remove all metal shavings and burrs. Apply an approved zinc-rich metal primer to all cut edge or drilled holes. Apply two coats of matching touch-up paint supplied by the manufacturer..

(14) Installation: All posts are to be set in 10" dia. x 3'-6" deep concrete footings. Concrete is to be a minimum of 3,500 PSI. The tops of the concrete footings are to be recessed a minimum of 6" below adjacent concrete sidewalks or adjacent asphalt surfaces. In asphalt areas, the tops of the concrete footings are to be finished so as to pitch slightly, to direct water away from the base of the posts. Fence panels are to be installed level and stepped as required to follow grade.

(15) Gates: Matching all welded construction and finish – three rail – except with flush bottoms. Gates are to be fabricated using 1-3/4" x 1 3/4" x 12 ga. double channel rail, 2" sq. x 11 ga. gate ends and 1" sq. x 14 ga. pickets. Gates 6 ft. wide or wider will have an additional 1-3/4"sq. x 14 ga. intermediate upright. Gusset plates are to be welded to all upright to rail intersections. Cable trussing is to be provided for all gates leaves 6 ft. or wider.

(a) Pivot Gates

(i) Basis of Design: Continental Gate Co. Evolution Series, with panels to match fence.

(b) Double Swing Gate Hardware

(i) Personnel gates: Two non-removable hinges per leaf; emergency egress UL-listed exit devices on each leaf. Provide heavy gauge matching mounting plates, strike plate receiver mounting points, and tamper-proof shield to prevent the emergency egress hardware from being manipulated from the exterior.

(ii) Double vehicular gates: Three non-removable hinges per leaf; fork-style gravity latch and integrated padlock hasp and eye.

b. Welded Wire Security Fencing and Gates

(1) Basis of Design: Omega II Fence Systems, as manufactured by Metaltech-Omega Inc., Laval, Quebec, Canada; provide for all fence locations, including rooftop play area, unless indicated otherwise.

(a) Provide matching gates at generator enclosure.

(2) Style: Elite Double Wire Fence.

(3) Fence panels: Panels to consist of one vertical cold-rolled steel wire between two horizontal cold-rolled steel wires. All cold-rolled steel wire is to be 6mm (0.236") in diameter. As per ASTM-A185, the wires are welded by resistance at

each crossing point to form rectangles 1-15/16' x 7-7/8". The cold-rolled wire shall have break strength of 3,150 lb.

(4) Fence panel orientation: Panels will be fabricated (and installed) with the ends of the vertical wires extending 1" from the first horizontal wire, thereby creating a spiked top. The bottom ends of the vertical wires are to be cut flush.

(5) Posts: All posts, including corner, end and gate posts, to be 3" sq., 11 ga., cold-rolled from 1008 grade steel and meet ASTM 513-00 and ASTM A787-01, G90 zinc coating. Post spacing not to exceed manufacturer's recommended spacing.

(6) Line post installation: In-ground, which requires a minimum of a 2'-0" post embedment. Maximum horizontal load of 3"x3" posts with 6' panels is 922 lbs.

(7) Gate post installation: In-ground, which requires a minimum of a 3'-0" embedment. 3" x 3" posts are required for openings up to 6 ft. wide. For larger openings, follow manufacturer's recommendations for larger sized posts.

(8) Universal bracket kits: Six (6) required per 6 ft. ht. panel.

(9) Special Panel Fitting (SPF) Kit: SPF-W kits are required where the fence is attached to the façade of the school, and/or the transformer/emergency generator enclosure, rather than an end post.

(10) Hardware: Only tamper-resistant hardware supplied by the fence manufacturer.

(11) Finish: The manufactured fence panels shall be coated with 1.6 oz. /sq. ft. hot-dipped galvanized (zinc GAW) in conformance with ASTM A123/A123M. Posts, caps, hinges, bracket kits, gate members etc., shall be zinc coated (galvalume process) (0.9 oz. /sq. ft.) as per ASTM A787-01. The polyester top coating is to be a minimum of 4 mils thick, applied by an electrostatic method. The coating performance shall meet or exceed the performance criteria of ASTM D 3359 – Method B; ASTM D 2794; ASTM B 117; and ASTM D 2247.

(12) Color: Taupe Brown (optional/textured).

(13) Field touch-up process: Follow manufacturer's recommendations to avoid negating the manufacturer's warranty.

(14) Swing gates: Matching all welded construction and finish. Swing gates to be fabricated in accordance with ASTM F900 using fully welded galvanized 2" x 2" square steel tube. Gate hardware is to conform to ASTM F900. Hinges, latch, drop rods, to be hot-dipped galvanized steel, and sized to assure proper operation. All non-moving parts to be matching polyester top coated. Standard latch is a clamp-on gravity system that is self-latching.

(a) Single swing gates: None required.

(b) Double swing gate hardware: Two non-removable hinges per leaf. Provide UL-listed exit devices on each leaf, with heavy gauge matching mounting plates, strike plate receiver mounting points, and tamper-proof shield to prevent exit devices from being manipulated from the exterior. Provide gate keeper hardware consisting of a mechanical device with gravity-lock system, to hold each leaf open when in the full open position.

2. Installation: All posts are to be set in 10" dia. x 3'-6" deep concrete footings. Concrete is to be a minimum of 3,500 PSI. The tops of the concrete footings are to be recessed a minimum of 6" below adjacent concrete sidewalk surfaces.
3. Provide accessories as required to meet code requirements and sloping safety top at rooftop play area(s).
4. Provide tamper-proof interlocking mechanism at all pairs of gates to prevent unauthorized entry.

B. Site Furnishings

1. Play Equipment—Pre-K Outdoor Play Space
    a. Basis of Design: Play equipment, appropriate for children 2 to 5 years of age, manufactured by Columbia Cascade Company, Portland, OR.
        (1) Play equipment: Pipeline Series, #9878, 30' x 21'; structure consisting of the following features:
            (a) Abacus.
            (b) Accessible transfer station, 8" riser (2).
            (c) Addition panel.
            (d) Arch climber.
            (e) Arch ring climber.
            (f) Baluster wall.
            (g) Baluster wall with ship's wheel.
            (h) Coil climber.
            (i) Convex/flat mirror panel.
            (j) CrossClimber cargo net.
            (k) Decorative arch (2).
            (l) Kid's bench.
            (m) Spelling panel.
            (n) Tube chute, curved.
            (o) Vertical loop climber.
            (p) Welcome/rules sign.
            (q) Wide slide chute.
            (r) Wave/slalom.
        (2) Deck: SofDek plastic-coated perforated steel.
        (3) Balance Beam: Pipeline Series Separates, steel, #1628-12-02.
        (4) KidSpinner: Pipeline Series Separates, #1630-5-22-PL.

(5) Accessible Outdoor Play Components

(a) One group of three posts and the following panels:

(i) Tic-tac-toe (x3)

(ii) Spelling panel—vertical mount (x3)

(b) One group of four posts and the following panels:

(i) Alphabet

(ii) Storefront countertop (center position)

(iii) Maze panel

b. Colors

(1) Posts and railings: Ocean Teal.

(2) Accessories: Ocean Teal.

(3) Perforated steel: Brown.

(4) Plastic deck color: Tan.

(5) Balance beam : Red.

(6) Kid spinner: Chrome Yellow.

(7) Accessible outdoor play components: to match others in the Play Space.

2. Play Equipment—Outdoor Play Space

a. Basis of Design: Play equipment, appropriate for children 6 to 12 years of age, manufactured by Columbia Cascade Company, Portland, OR.

(1) Play equipment: Interplay Series, #7815; structure consisting of the following features:

(a) Kid spinner.

(b) Rails.

(c) Cap with pennant.

(d) Warp net.

(e) Wobbler and portal.

(f) Loop climber.

(2) Net climber: Interplay Series, #7815.

b. Colors: To be determined.

3. Basketball Backstop

a. Basis of Design: Heavy-duty adjustable-height basketball backstop with aluminum-trimmed, steel-framed and angle-braced glass backboard manufactured by Escalade Sports, Evansville, IN.

(1) Model #B3101, Goalrilla CV-72 Basketball System; adjustable from 7 ½ ft. to 10 ft. goal height.

b. Provide anchoring system consisting of manufacturer's mounting plates and anchor bolts set in reinforced 3,500 PSI concrete footings of a minimum diameter of 16" by 48" in depth, as specifically recommended by the manufacturer.

c. Assemble and install basketball backstops using factory supplied hardware only, in accordance with manufacturer's instructions.

d. Provide manufacturer's fitted pads for backboard bottom edges and goal posts.

4. Bicycle Racks

a. Basis of Design: Bike racks manufactured by Belson Outdoors, North Aurora, IL.

(1) Model #G8-G-IG, Genesis Bike Rack; four hoops for eight bikes; in-ground mounted. Finish: Manufacturer's standard hot dipped galvanized.

(2) Provide optional two-piece grout covers, Model #GC-238, spun aluminum.

5. Sand/Water Table

a. Basis of Design: Model #ZZXX1270S by AAA State of Play, Indianapolis, IN; ground-mounted, with covers.

b. Colors: To be determined.

6. Sandbox

a. Provide cast-in-place concrete frame and bench, with filter fabric lining and 0.4-0.5 mm washed white sand.

7. Exterior Shelter Structures

a. Basis of Design: Exterior shelter structures manufactured by PorterCorp, Holland, MI.

(1) Pre-K Outdoor Play Space: Two-column barrel roof rectangular shelter, 8 x 24 feet, with manufacturer's standing seam metal roof and matching end caps.

(a) Posts: #K01, standard plain square steel, with column covers.

(b) Integral seating: #S51.

(c) Manufacturer's factory-applied Kynar-500 PVDF finish; colors as follows:

(i) Roof: Copper Penny.

(ii) Columns and frame: Almond.

(iii) Seating: Harbor Blue.

(2) Outdoor Play Space: Two-column elongated octagon hip roof structure, #DTS2040, with manufacturer's standing seam metal roof.

(a) Posts: #K01, standard plain square steel, with column covers.

(b) Manufacturer's factory-applied Kynar-500 PVDF finish; colors as follows:

(i) Roof: Brite Red.

(ii) Columns and frame: Glacier White.

(c) Provide concrete pad under shelter matching size and shape of roof.

(3) Provide weatherproof, lockable duplex electrical receptacles in each post.

8. Exterior Table and Bench Units
    a. Basis of Design: Exterior table and bench units manufactured by Dumor, Inc., Mifflintown, PA.
        (1) All aluminum frame picnic tables with welded table top and seat braces, 8-ft. model no. 156-80PL, and 8-ft. accessible model no. 156-68-1PL.
        (2) Provide two of each model, with standard mill finish frame and factory-supplied stainless steel hardware.
        (3) Table tops and seats shall be high-density polyethylene recycled plastic lumber; color: Cedar.
9. Exterior benches
    a. Basis of Design: Exterior wall-mounted 6-foot Victory Bench with expanded seat, as manufactured by Anova, St. Louis, MO.
        (1) Colors: Manufacturer's standard polyester powder-coated finish, in colors to be determined.
        (2) Exterior bench unit assembly by contractor using factory supplied stainless steel hardware only, in accordance with manufacturer's instructions.
        (3) Seat mounting height: 14" to 16".
10. Planters
    a. Basis of Design: Bison Innovative Products Cubes.
        (1) Provide PC482436, Bronze, and PC482420, Red, in quantities as shown on drawings.

C. Retaining Walls
1. For exposed surfaces of retaining walls, use form liners during casting.
    a. Basis of Design: Scott System Form Liners Model #111 Stone Ground Fractured Granite.
2. Provide ¾" chamfer or bull nose at all exposed edges.

D. Site Specialties
1. Utility pipe bollards
    a. Provide custom-fabricated utility pipe bollards consisting of lengths of 8" dia. schedule 40 steel pipe; provide at parking lot and service court only.
        (1) Provide steel pipes 6'-0" long overall, with two ½" dia. holes drilled 6" up from the bottom to accept a 12" long steel dowel pin welded to pipe walls.
        (2) Exposed portion of bollard shall be 3'-6" above adjacent finish grade.
        (3) Fill pipes completely with concrete after installation.
        (4) Dome concrete surface above the top of the pipe; finish neatly to prevent water infiltration.
    b. Provide 18" dia. x 3'-6" deep concrete footing at each utility bollard location. Recess footing top a minimum of 6" below adjacent concrete sidewalk or asphalt surfaces.

c. Finish

(1) Apply G90 galvanizing and two full wet shop-applied coats of metal primer to inside and outside surfaces and all edges of pipes after fabrication.

(2) Apply two coats of oil-based exterior gloss enamel after installation and concrete filling.

(3) Top coat color: Federal (safety) yellow.

2. Decorative security bollards

a. Basis of Design: Manufacturer: Dumor, Inc. of Mifflintown, PA., Model #450-36-01, 36" ht. hex bollard; provide at all bollard locations not indicated as utility pipe bollards..

b. Bollard Installation: S-1 Embedded. Provide 4" diameter schedule 40 steel pipe set in concrete footing at each bollard location as per manufacturer's instructions.

c. Schedule 40 steel pipes to be 6'-0" long overall, with a ½" dia. hole drilled 6" up from the bottom to accept an 8" long welded steel dowel pin. Pipes are to be hot dipped galvanized post- fabrication (GAW). Steel pipes are to be completely filled with concrete after installation into their respective concrete footings.

d. Concrete footing: Provide an 18" dia. x 3' – 6" deep concrete footing, to secure the sch. 40 steel pipes at each decorative security bollard location, as per manufacturer's Drawing No. 450-36-01. Concrete is to be a minimum of 3,500 PSI. The tops of the concrete footings are to be recessed a minimum of 6" below the adjacent concrete sidewalk surface.

e. Assembly: Assemble decorative security bollards over 4" steel pipes following the manufacturer's instructions.

f. Finish: Manufacturer's standard polyester powder-coated finish; color: Argento.

END OF SECTION G2060.00

SECTION G2080.00

LANDSCAPING

PERFORMANCE

A. Basic Function

1. Provide landscaping as indicated over all areas of the site not finished with paving, surfacing, or buildings.
2. Design-Builder shall prepare the planting areas, install the plant medium, plant material and maintain the landscape installation through acceptance and during the subsequent two (2) calendar year maintenance period.
3. Plant material as described, shall be nursery grown. All plant material shall conform to the American Standard of Nursery Stock, Standard ASA Z 60.1, American Association of Nurserymen, Washington, DC.
    a. Sizes of plant material: Measurements of trees and shrubs shall be taken when their branches are in a normal position. Height and spread dimensions specified in the Plant Schedule refer to the main body of the plant, not from branch tip to tip. Caliper of trees shall be taken twelve (12) inches above ground level.
        (1) Trees and shrubs larger than specified in the Plant Schedule are acceptable.
    b. The following types of plantings are required:
        (1) Street tree plantings.
        (2) Ornamental tree plantings.
        (3) Shrub plantings.
        (4) Groundcover plantings.
    c. Substitutions may be permitted only if proof is submitted to the owner that specific plants or sizes are unobtainable.
    d. Balled and burlapped plants that have cracked or broken balls prior to or during planting operations are not to be planted and must be replaced.
    e. Permanent erosion control plantings are not required.
4. Provide conveniently located and appropriately sized tamper-proof water connections for standard hoses. Hoses shall be provided by the school district.
    a. Provide non-permanent irrigation equipment and appurtenances as required to accomplish maintenance activities during the two (2) year maintenance period.
5. Provide drip irrigation system for planting bed(s) where indicated at planting bed within Play Area.
6. Where landscaping elements also must function as elements defined within another element group, meet the requirements of both element groups.
7. Brand Names: Where brand names are listed, they represent the Basis of Design unless those items are identified as approved proprietary items in project requirements.

B. Amenity and Comfort

1. Convenience

a. Hose connections: At intervals as required so that hoses can reach all areas to be watered, using hoses of not more than 100 feet in length.

2. Appearance

a. Plants: Arranged and planted for acclimation to local micro-climate, and pleasant, healthy and upright appearance throughout the year.

(1) Provide the landscape design using the specified trees, shrubs, and ground covers, as shown in the Basis of Design.

(2) Provide a neat and tidy urban landscape.

(3) Provide a landscape that will look complete within two (2) years after planting, and that will remain of basically the same appearance indefinitely without significant pruning.

(4) Do not use any turf grass.

b. Plants in Beds: Mulched for a tidy appearance.

c. Mulch: Use double –shredded hardwood mulch, installed at a minimum consistent depth of 3", installed after all plant material has been installed.

C. Health and Safety

1. Accidental Injury

a. The ground cover plant material used must be non-toxic if accidently ingested.

2. Potable Water Contamination

a. Prevent contamination of the potable water supply during landscape watering activities prior to acceptance, and during the subsequent two (2) calendar year maintenance period.

D. Quality and Durability

1. Service Life: It is understood that survival of plant material is dependent on original condition and weather conditions as well as routine maintenance. The Design-Builder is responsible for supplying, and properly installing, healthy vigorous plants, and subsequently maintaining those plants during the two (2) year maintenance period.

a. Topsoil for backfill: Suitable for growing the plants provided, with adequate organic content and nutrients for the first two years of growth, based on recommendations of established authorities, meeting the minimum standards set forth in the NJDOT specifications.

b. Provide professional comprehensive regularly scheduled landscape maintenance services of all plants and mulched beds (including weeding of planting beds and tree pits) during the first two years after completion and acceptance.

c. At the end of the first year of the two (2) calendar year maintenance period after completion and acceptance, if any plants are dead or dying in the opinion of the owner's representative, replace them with new matching plants. Replacement plants shall be maintained for the duration of the two (2) calendar year maintenance period.

2. Insects, Disease and Damage: All plants are to be free of damage, injury, insect infestation or the presence of disease at the time of delivery to the project. Any and all plants that are damaged, or appear to be infested or diseased are to be immediately removed from the project and not returned. All plant material shall have well-developed root systems.

E. Operation and Maintenance

1. Irrigation Water Source: Same as building supply.
2. Water Conservation
    a. Despite the fact that a permanent irrigation system is not required, conserve water wherever possible through the use of hand watering and soaker hoses during the maintenance period.

PRODUCTS

A. Plant materials: See Plant Schedule.

B. Mulch

1. Double-shredded hardwood mulch, natural dark brown in color, which includes no construction debris or other deleterious material or litter.

C. Edgings for Beds

1. Landscape edging is not required because of the presence of one of the following hardscape elements at all locations:
    a. Concrete walls, as shown on the site plan.
    b. Concrete sidewalk (and/or flush concrete curbing) as shown on the site plan.
    c. Asphalt pavement as shown on the site plan.
    d. Granite curb, as shown on the site plan.
    e. Modular concrete block planter/seat walls, as shown on the site plan.

D. Irrigation

1. Basis of Design
    a. Controller: Irritrol KwikDial.
    b. Rain sensor: Hunter Mini-Clik.
    c. Solenoid valve: Hunter SVR.
    d. Valve box: Rain Bird VB-10RND-H.
2. Provide complete system with backflow preventer, anti-siphon equipment, control wiring, 1” copper pipe to solenoid valve, and polyethylene irrigation pipe and emitters.
3. Locate controller and head end equipment in janitor’s closet.

E. Tree Grates

1. Basis of Design: Neenah Enterprises, Inc., Neenah, WI.
    a. Model #R08717, 60” x 60” grate, with 36” tree opening and #R08500 Type U frame.

F. Root Barrier

1. Basis of Design: Century Root Barrier as manufactured by Century Products.

   a. CR-PE Series, 2'-0" tall x 0.060" thick black polyethylene with ultraviolet inhibitors, molded with root-deflecting ribs, supplied in rolls.

   b. Install the root barrier using the "surround application" installation method for the large circular tree pits, continuously along the outside edge of the tree pit, and completely surrounding the root ball with the extent of barrier overlap at the seam as recommended by the manufacturer.

   c. Root barrier shall be installed with the top of the barrier positioned ½" below the elevation of the surrounding pavement (sidewalk or asphalt) surface, not at the tops of adjacent curbs or walls where present.

   d. Root barrier to be installed vertically, with the root deflecting ribs facing the plants. Care shall be taken to not allow topsoil backfill to become lodged between the surrounding hardscape edges and the outer face of the root barrier. Do not distort the root barrier during installation.

   e. Follow all manufacturers' recommendations for splicing rolls and securing the cut ends of the root barrier with the approved sealant and mechanical fasteners.

G. Environmental Engineering Control

1. Provide environmental engineering control at all planters, planting beds and tree pits as described in Section G1070.00, Site Earthwork and all applicable project requirements and regulations.

H. Fertilizer

1. Basis of Design: Agriform 20-10-5 Planting Tablets Plus Minors, as manufactured by The Scots Company LLC.

   a. Provide 21-gram size slow-release Agriform Tablets for all shrubs and trees (Stock No. 90026).

   b. Provide 5-gram size slow-release Agriform Tablets for all groundcover plants (Stock No. 90915).

   c. Install tablets as follows: Position plant in hole and backfill halfway up the root ball. Place tablet(s) beside the root ball, approximately 1 inch from the root tips. Do <u>not</u> place tablets in the bottom of the hole. Complete topsoil backfill, tamp, water-in and mulch.

   d. Fertilizer tablet application rates:

      (1) Ground cover in 1 gal. size containers – place one (1) 5-gram fertilizer tablet per plant.

      (2) Shrubs in 1 gal. size containers – place one (1) 21-gram fertilizer tablet per plant.

      (3) Shrubs in 3 gal. size containers – place two (2) 21-gram fertilizer tablets per plant.

      (4) Trees of varying sizes – place one (1) 21-gram fertilizer tablet for every ½" of caliper size.

I. Topsoil Amendments

1. Topsoil for planters, planting beds and tree pits shall be NJDOT approved, and supplemented with well-rotted manure or finished, screened leaf compost at a ratio of 2/3 topsoil to 1/3 manure or compost by volume.
2. Amended topsoil backfill shall be placed in all planters, planting beds and tree pits to a minimum depth of 2'-0", or to the full depth of the root balls whichever is greater.
3. Hydrophilic polymer crystals shall be added to the amended topsoil, to increase moisture retention as follows:
    a. Basis of design: TeraGel (T-200) as manufactured by Terawet Ventures, San Diego, CA.
        (1) Incorporate and thoroughly mix in, as an additional bulk amendment into the amended topsoil backfill, 2-1/2 lbs. (dry weight) of hydrophilic polymer crystals per cubic yard of amended topsoil.
        (2) In addition to the bulk application described above, add the following quantities of hydrophilic polymer crystals directly into the tree/plant pits when they have been backfilled to the half-way point:
            (a) Ground cover in 6" size pots – no additional hydrophilic polymer crystals required.
            (b) Shrubs in 1-gal. size containers – place and evenly distribute an additional 3 tsp. of hydrophilic polymer crystals.
            (c) Shrubs in 3-gal. size containers – place and evenly distribute an additional 5 tsp. of hydrophilic polymer crystals.
            (d) Trees 2"- 2 1/2" cal. size – place and evenly distribute an additional 3 tsp. of hydrophilic polymer crystals.
            (e) Trees 2 1/2"- 3" cal. size – place and evenly distribute an additional 5 tsp. of hydrophilic polymer crystals.
            (f) Trees 3 1/2" - 4'cal. size – place and evenly distribute an additional 7 tsp. of hydrophilic polymer crystals.

J. Lightweight Engineered Soil for Rooftop Planters

1. Basis of Design
    a. Provide products of "rooflite" certified green roof media.
    b. Provide 6" layer of "rooflite drain" lightweight granular drainage material in the bottom of all planters prior to the installation of the lightweight engineered soil.
    c. Provide "rooflite intensive ag" lightweight engineered soil to fill planters to within 3" of the top of the planters.

METHODS OF CONSTRUCTION

A. Turf: Not required.

B. Groundcover: Groundcover shall be supplied in pots, and be at least one year old, with sufficient root growth to hold soil in place when removed from the pot.

C. Trees and shrubs

1. Trees and shrubs shall be planted immediately upon delivery to the job site. Trees and shrubs that cannot be planted the day of delivery shall be set on the ground and be well protected with a layer of wet saw dust of mulch and watered daily.

2. Trees and shrubs shall be planted so that their original root crown is flush with, or slightly above, finish grade when in final vertical position. When tree and shrub pits/beds are backfilled approximately 2/3 full, water thoroughly, saturating the root ball, and eliminating all air pockets, before completing the backfilling process.

3. All plants shall be mulched within two (2) days after planting.

4. All trees are to be staked and guyed using high quality commercial grade materials and techniques. Routine maintenance shall include the periodic tightening, adjusting and replacement of staking and guying materials. All stakes and guying materials are to be removed and properly disposed of by the Design-Builder upon completion of the two (2) calendar year maintenance period.

5. Pruning shall be done in accordance with standard horticultural practice, to preserve the health, natural character, form and symmetry of the plant material.

6. Upon completion of the landscape installation, the Design-Builder shall dispose of all refuse and surplus materials, equipment and appurtenances from the job site, and leave the entire area and public thoroughfares broom clean.

END OF SECTION G2080.00

SECTION B2080.00

EXTERIOR WALL APPURTENANCES

PERFORMANCE

A. Basic Function

1. Exterior wall appurtenances include all elements attached to the outside of the exterior walls, except where an integral part of equipment or service elements. Appurtenances required are those made necessary by the design and may include the following:
    a. Exterior louvers.
    b. Exterior sunscreens.
    c. Exterior canopies.
    d. Exterior railings and handrails.
    e. External ornamental devices.
    f. Main building identification signs.
    g. <u>Window guards.</u>
    h. <u>Wall-mounted flagpole.</u>
2. Where exterior wall appurtenances also have a function defined in another element group, design such elements as specified for that element group, in addition to the requirements specified in this section.
3. Do not provide exterior wall appurtenances that are lower than 12 feet above adjacent grade, with the exception of railings and handrails.
4. Basis of Design: Where brand names are listed, they represent the Basis of Design unless those items are identified as approved proprietary items in project requirements.

B. Amenity and Comfort

1. Railings and handrails
    a. Provide exterior tube railings, balusters, guard rails, wall railings, infill panels and fittings at all stairs, ramps, and other locations to protect, assist and guide people and as required to meet all applicable codes and standards.
    b. Provide railings and handrails that are in full compliance with barrier-free and all other codes and standards.
    c. Provide railings and handrails that are smooth in texture, with formed radius ends and bends and all joints welded and ground smooth.
2. Signs: Provide signs that are legible during daylight and nighttime hours by pedestrians and motorists from far side of adjacent street.

C. Structure

1. Provide engineered anchorage for all wall appurtenances, to support all dead and applied loads in accordance with codes and other standards.

2. For louvers, sunscreens, canopies, and other large appurtenances subjected to significant gravity, wind, snow or other loading, provide for structural support from building structural frame rather than from exterior wall.
3. For railings, signs, and other small appurtenances attached to exterior wall, provide embedments installed during wall construction wherever possible.

D. Durability

1. Water Penetration Resistance
   a. Maintain integrity of exterior wall envelope at all points of wall appurtenance penetration and attachment.
   b. Air Intake and Exhaust Openings: Minimize rainwater penetration and protect adjacent interior spaces from damage from water.
      (1) Provide louvers in compliance with AMCA 511 Penetration Class A for wind-driven rain.

E. Material and Finish

1. Provide appurtenances with all exposed components constructed of stainless steel, aluminum, or other noncorrosive materials.
2. Provide exposed surfaces without painted or coated finishes wherever possible.
3. For painted finishes, provide mica fluoropolymer or metallic fluoropolymer finish complying with AAMA 2605-02, in manufacturer's standard range of colors.

F. Impact Resistance

1. Locate, fabricate and install all exterior wall appurtenances to resist damage from vandalism.
2. Locate, fabricate and install all exterior wall appurtenances to protect building users and passersby, and to resist damage from vehicles and pedestrians.

~~***PERFORMANCE***~~

PRODUCTS

A. Exterior Louvers

1. Provide custom aluminum louvers as follows:
   a. AMCA 511 Class A for wind-driven rain.
   b. Sightproof for first floor installations.
2. Provide interior bird screens.
3. Provide insulated blank-off panels to close portions not needed for ventilation.
4. Provide motor operated dampers as required by HVAC design.
5. Provide factory-applied fluoropolymer finish in manufacturer's standard colors.

B. Signs

1. Mount signs as indicated, for visibility from adjacent street.
2. Provide dimensional letter signs using stainless steel letters.

a. Typeface: As selected from manufacturer's standard typefaces.

b. Letter Height: 12 inches or as shown.

c. Depth: 3 inches.

d. Finish: Similar to PPG Duranar Claypot.

e. Sign Message: [NAME OF SCHOOL].

C. Exterior Ornamental Devices

1. Provide custom devices of stainless steel or aluminum with painted finish.

2. Provide material thicknesses, structural bracing, and connection details to ensure structural rigidity and prevent oilcanning or deformation.

3. Provide engineered attachment to embedments fabricated and installed at time of construction of supporting elements.

D. Window Guards

1. Basis of Design: Ametco Manufacturing Corporation, Willoughby, OH.

a. For Cafeteria windows, provide panels similar to Metro Design welded steel security grilles.

b. For all other first-floor windows not within perimeter security fence, provide 12-gauge, high-visibility perforated steel panels.

2. Provide permanent attachment of frame to masonry.

3. Provide factory-installed hinges and lock with keyed exterior access.

4. Provide factory-applied galvanizing and polyester powder finish.

E. Wall-Mounted Flagpole and American Flag

1. Basis of Design: Wall-mounted tapered aluminum flagpole manufactured by American Flag and Flagpole Company, Lake Elmo, MN.

a. External halyard aluminum flagpole; nominal height 30' above adjacent roof; diameter and wall thickness as required for specified height.

b. Features and accessories

(1) Pole: All new seamless 6063 aluminum tubing with uniform conical taper.

(2) Finish: Directional sanded satin ground aluminum.

(3) Finial: Gold anodized aluminum ball

(4) Truck: Cast aluminum stationary truck with pulley

(5) Halyard: 5/16-inch nylon rope with two nylon snap hooks.

(6) Cleats: One 6-inch cast aluminum.

(7) Brackets: Custom cast aluminum mounting brackets and stainless steel anchorages for placement in masonry during construction.

(8) Lighting: 2x20w LED flagpole downlight.

2. **Basis of Design, American flag: As manufactured by Valley Forge or Super Tough Brand, size 5' x 8' or as appropriate for pole height and location; fully embroidered sewn polyester, with canvas heading and brass grommets,**

METHODS OF CONSTRUCTION

A. Anchorages and Attachments

1. Provide anchorages and attachments that permit and facilitate removal if repair or replacement becomes necessary.
2. Provide hidden or tamper-proof anchorages and attachments at all exposed locations.
3. **To the extent possible, provide anchorages for embedment at time of masonry construction.**

B. Louvers and other openings

1. Construct openings and components of openings to provide positive drainage of water to exterior of the building.
2. Top of Openings: If wall construction does not provide its own methods of drainage, use separate flashing to prevent water from entering opening components or the interior of the building.
3. Bottom of Openings: Integral or separate sill or flashing to prevent water running over or draining out of opening components from entering the wall construction below or the interior of the building. Provide end dams and other components in compliance with Materials and Systems Standards.

END OF SECTION B2080.00

SECTION G3000.00

LIQUID AND GAS SITE UTILITIES

PERFORMANCE

A. Basic Function

1. Provide the following site services:

   a. Water supply: Means of distributing water from municipal system for all purposes required in buildings and on site.

   b. Sanitary sewer: Means of removing liquid waste generated in buildings on site.

   c. Storm sewer: Means of removing, controlling, and storing rainwater runoff from buildings and site areas.

   d. Site elements of energy supply: Means of storing and distributing natural gas for energy-using services.

2. Where site services elements must also function as elements defined within another element group, meet requirements of both element groups.

B. Amenity and Comfort

1. Leakage: Provide distribution systems which are leak-free.

2. Accessibility: Provide clearances around components that are adequate for service and use.

3. Odor: Provide trap(s) at connection(s) between storm sewer and sanitary sewer.

C. Health and Safety

1. Safety hazards: Avoid using products that create safety hazards wherever possible; where services must involve flammable materials or hazardous operations, comply with code.

2. Unauthorized access: Provide locking devices to stop unauthorized access.

3. Excess pressure: Provide pressurized components that will withstand operational pressures without failure and to relieve or reduce excessive pressure to prevent failure.

4. Electrical shock: Isolate electrical conductors from personnel.

5. Accidental explosion: Provide equipment designed to withstand electromotive forces without catastrophic failure.

6. Misuse: Minimize misuse that could result in damage to property, injury, or loss of life.

7. Hazardous materials: Piping carrying flammable liquids and toxic materials clearly labeled.

8. Vermin resistance: Provide components that are resistant to the entry of rodents and insects.

D. Structure

1. Concealed or buried piping and components: Provide cover or concealment so that components are not subjected to damaging stresses due to applied loads.
2. Supports for piping and components: Support piping and components using the following:
    a. Provide supports that allow movement of the pipe without undue stress on the piping, tubes, fittings, components, or foundations.
3. Seismic Protection
    a. Provide flexible joints where differential movement is anticipated.
    b. Provide seismic supports in compliance with local code requirements.

E. Durability

1. Weather Resistance
    a. Storage tanks and distribution components: Prevent freezing. Provide automatically controlled supplemental heating where necessary.
    b. Burial depth of piping: In accordance with code. Minimum burial depth is the deeper of 36 inches or 6 inches below lowest recorded level at which the ground freezes.
    c. Electrical equipment: Provide equipment which is waterproof.
2. Corrosion resistance: Prevent corrosion by using corrosion-resistant materials, by preventing galvanic action, by preventing contact between metals and concrete and masonry, and by preventing condensation on metals.
    a. Metals considered corrosion-resistant: Aluminum, stainless steel, brass, bronze, cast iron, ductile iron, malleable iron, hot-dipped galvanized steel, chrome-plated steel, cadmium-plated steel, and steel coated with high-build epoxy or coal tar-based paint.
    b. Underground elements: Provide supplementary protection for underground metal pipes and tanks, sufficient to prevent corrosion completely, for the service life of the element without maintenance.
        (1) 3 inches of concrete cover is considered to be permanent protection.
        (2) Bituminous or other waterproof coating or wrapping is considered permanent protection unless cathodic protection is required and unless underground element is subject to movement due to structural loads or thermal expansion or contraction.
        (3) Provide cathodic protection if any of the following is true; coatings or wrappings will not be considered sufficient protection for elements falling under these criteria:
            (a) Metal elements are submerged or buried in a soil environment known to cause corrosion on similar nearby structures.
            (b) Metal elements are submerged and buried in a soil environment in which stray DC electrical currents are present.

3. Resistance to Accidental Damage and Abuse
    a. Provide barriers or protected locations for services, to prevent damage due to vehicular traffic.
    b. Buried components: As required by code; minimum of 12 inches below surface of ground.
    c. Underground piping: Watertight and rootproof.
    d. Storm Grates and Inlets
        (1) Provide storm grates and inlets with the strength to withstand repetitive loading without damage or undue wear.
        (2) Provide storm grates and inlets with the strength to withstand concentrated loads up to 2000 psig.
        (3) Provide storm grates which resist corrosion.
        (4) Provide tamper-resistant anchors on grates and covers.

F. Operation and Maintenance
    1. Capacity
        a. Water and drainage: As required by code and as specified.
        b. Heating, cooling, and ventilating: Provide site services sufficient to maintain interior environment within ranges specified.
        c. Fire protection: As required by code and as specified.
    2. Service connections: Provide separate service connections for domestic water service and fire water service in a manner that complies with all codes and local utility requirements.
    3. Ease of use: Provide easy access to and working clearances around system components.
    4. Minimization of misuse: Provide locking devices to stop unauthorized access.
    5. Ease of Maintenance
        a. Provide shutoff valves and backflow preventers as required by code and at utility service mains and service entry points.
        b. Piping: Provide means of isolating portions of piping system, so that small portions may be shut down leaving the remainder in operation, by using isolation valves located so that drainage of the entire system is not required for repair.
        c. Storm and Sanitary Sewer
            (1) Maximum manhole spacing: 300 feet.
            (2) Maximum cleanout spacing: 100 feet.
        d. Provide drains and inlets with replaceable covers.

G. See Paragraph G, Environmental Impacts, in Section G0000.00, Sitework, for environmental requirements and restrictions.

H. All materials and installation shall comply with the most stringent regulatory requirements of authorities having jurisdiction.

I. All utilities shall be designed and installed to meet HS20-44 loadings.

PRODUCTS

A. Sanitary Sewer

1. Pipe

a. Use one or more of the following:

(1) Cast iron soil pipe and fittings, hub and spigot.

(2) PVC pipe and fittings.

b. Do not use:

(1) Cast iron soil pipe and fittings, hubless.

(2) Concrete pipe.

(3) Clay pipe.

(4) Copper tube or pipe.

(5) ABS pipe and fittings.

2. Manholes

a. Use one or more of the following:

(1) Prefabricated concrete.

(2) Poured-in-place concrete.

3. Sump Pumps

a. Use one or more of the following:

(1) Submersible pumps.

(2) Sewage pumps.

(3) Grinder pumps.

b. Do not use:

(1) Pedestal pumps.

4. Grease interceptor: Single heavy-duty commercial grease interceptor located outside the building in an underground, lined precast concrete pit with cover.

B. Storm Sewer

1. Pipe

a. Use one or more of the following:

(1) Cast iron soil pipe and fittings, hub and spigot.

(2) Concrete pipe.

(3) PVC pipe and fittings.

b. Do not use:

(1) Cast iron soil pipe and fittings, hubless.

(2) Clay pipe.

(3) Copper tube or pipe.

(4) ABS pipe and fittings.

2. Culverts

a. Use one or more of the following:

(1) Concrete pipes.

3. Storm Drains

a. Use one or more of the following:

(1) Cast iron.

(2) Stainless steel.

(3) Plastic.

b. Do not use:

(1) Bronze.

(2) Wrought iron.

4. Manholes

a. Use one or more of the following:

(1) Prefabricated concrete.

(2) Cast-in-place concrete.

5. Trench Drains

a. **Basis of Design: Series R-4996 self-forming trench pan, sized as required, with Type Q grates at all locations within Play Areas and where required for barrier-free access, and bolted Type C grates elsewhere.**

END OF SECTION G3000.00

SECTION E

ROOM AREA CALCULATIONS AND FIT-OUT LISTS

PRE-KINDERGARTEN CLASSROOM	Provided By				Size			Total Rooms =		10
		SDA								
	DB/GC	FFE	Tech	District	D	x	W	QTY.	SF/UNIT	TOTAL SF
Occupants										
Student				●		–		15	20.00	300.00
Teacher				●		–		2	20.00	40.00
Wall and Ceiling Mounted Equipment										
Interactive whiteboard			●					1		
Sound Enhancement Speakers	●							1		
Sound Enhancement System	●							1		
Clock/Intercom	●							1		
Telephone			●					1		
Flag				●				1		
Tackboard- 6 LF	●							2		
Tackstrip -above markerboard with flag/map holder	●							1		
Floor Furniture and Equipment										
Teacher Desk		●			2.00	x	4.00	1	8.00	8.00
Teacher Chair		●			2.00	x	2.00	1	4.00	4.00
Student Table - Rectangular 3 Ft.		●			2.00	x	3.00	3	6.00	18.00
Student Table - Rectangular 4 Ft.		●			2.50	x	4.00	1	10.00	10.00
Student Chairs		●			1.33	x	1.33	18	1.77	31.84
Student Table - Economy Table		●			2.00	x	2.25	1	4.50	4.50
Student Cot				●	1.75	x	4.25	15	7.44	7.44
Student Easel 3-Way		●			2.00	x	2.00	1	4.00	4.00
Student Faux Play Kitchen Appliance		●			1.25	x	7.50	1	9.38	9.38
Student Faux Play Laundry Appliance		●			1.25	x	3.00	1	3.75	3.75
Student Dress-Up Island		●			1.25	x	3.00	1	3.75	3.75
Student Sand and Water Table		●			1.75	x	2.50	1	4.38	4.38
Student Smart Table		●			1.75	x	2.50	1	4.38	4.38
Student Writing Center		●			3.00	x	2.50	1	7.50	7.50
Student Listening Center		●			1.25	x	2.00	1	2.50	2.50
Student Computer Table		●			2.50	x	4.00	2	10.00	20.00
Student Computer Chair		●			1.33	x	1.33	3	1.77	5.31
Student Ironing Board		●			1.00	x	2.50	1	2.50	2.50
Doll Cradle		●			1.50	x	1.75	1	2.63	2.63
Doll High Chair		●			1.25	x	1.25	1	1.56	1.56
Mirror		●			0.25	x	1.25	1	0.31	0.31
Puppet Tree		●			1.00	x	1.00	1	1.00	1.00
Waste Receptacle				●	1.00	x	1.17	1	1.17	1.17
Recycling Basket				●	1.00	x	1.17	1	1.17	1.17
Storage / Fixed Cabinetry and Equipment										
Storage Unit - Block Area		●			1.25	x	4.00	2	5.00	10.00
Storage Module - Discovery Area		●			1.25	x	3.00	1	3.75	3.75
Storage Tray Cubby - Table Toys Area		●			1.25	x	4.00	2	5.00	10.00
8 Tray Mobile Music Unit		●			1.25	x	1.75	1	2.19	2.19
Sink Area/Bubbler w/ overhead storage	●				2.00	x	7.00	1	14.00	14.00
Library Room Divider		●			1.50	x	3.00	1	4.50	4.50
Student Couch		●			1.50	x	3.00	1	4.50	4.50
Easy Chair		●			1.50	x	2.00	1	3.00	3.00
Student Coat Lockers w/ Step w. wall cabinets above		●			1.50	x	4.00	3	6.00	18.00
24 Flat Tray Mobile Organizer		●			1.25	x	4.00	1	5.00	5.00
Storage Cabinet		●			2.00	x	3.00	1	6.00	6.00
Teacher Wardrobe/Storage		●			2.00	x	3.00	1	6.00	6.00
Equipment (no floor impact)										
Teacher Computer			●					1		
Student Computer			●					3		
Printer			●					1		
Other Program Considerations										
Neighborhood Rug				●	4.00	x	6.00	1		
Hopscotch Learning Rug				●	6.50	x	9.50	1		
MINIMUM SF - PRE-KINDERGARTEN CLASSROOM										**585.99**
MODEL/ACTUAL SF - PRE-KINDERGARTEN CLASSROOM										**900.00**

PRE-KINDERGARTEN TEACHER WORKROOM	Provided By				Size			Total Rooms =		1
		SDA								
	DB/GC	FFE	Tech	D	D	x	W	QTY.	SF/UNIT	TOTAL SF
Occupants										
Occupant				●		–		11.00	8.00	88.00
Wall and Ceiling Mounted Equipment										
Clock/Intercom	●							1		
6 LF Markerboard	●							1		
4 LF Tackboard	●							1		
Tackstrip -above markerboard with flag/map holder	●							1		
Telephone			●					1		
Floor Furniture and Equipment										
Work Counter w/ bookshelf above		●			2.00	x	8.00	3	16.00	48.00
Bookcase		●			1.25	x	3.00	3	3.75	11.25
Refrigerator				●	2.50	x	2.50	1	6.25	6.25
Work Table (4 ft.)		●			2.50	x	4.00	2	10.00	20.00
Chairs		●			1.15	x	1.15	11	1.32	14.55
Recycling Basket				●	1.00	x	1.15	1	1.15	1.15
Waste Receptacle				●	1.00	x	1.15	1	1.15	1.15
Storage / Fixed Cabinetry and Equipment										
Counter w/ Sink, Storage above & below	●				2.00	x	7.00	1	14.00	14.00
Photocopier				●	1.50	x	4.00	1	6.00	6.00
Equipment (no floor impact)										
Computers/ Laptops			●					3		
MINIMUM SF - PK TEACHER WORKROOM										**210.35**
MODEL/ACTUAL SF - PK TEACHER WORKROOM										**200.00**

PRE-K ITINERANT STAFF OFFICE	Provided By				Size			Total Rooms =		1
		SDA								
	DB/GC	FFE	Tech	D	D	x	W	QTY.	SF/UNIT	TOTAL SF
Occupants										
1st Occupant				●		–		1	60.00	60.00
Additional Occupants				●				3	15.00	45.00
Wall and Ceiling Mounted Equipment										
Clock/Intercom	●							1		
4 LF Tackboard	●							1		
4 LF Markerboard	●							1		
Floor Furniture and Equipment										
Office Desk		●			2.50	x	5.00	2	12.50	25.00
Office Return		●			2.00	x	4.00	0	8.00	0.00
Desk Chair		●			2.00	x	2.00	2	4.00	8.00
Conference Table-Round		●			3.00	x	3.00	1	9.00	9.00
Guest Chair		●			2.00	x	2.00	6	4.00	24.00
Storage / Fixed Cabinetry and Equipment										
File Cabinet (stacked)		●			1.50	x	2.50	2	3.75	7.50
File Cabinet		●			1.25	x	2.20	2	2.75	5.50
Bookcase		●			1.00	x	2.50	0	2.50	0.00
Teacher Wardrobe		●			2.00	x	3.00	1	6.00	6.00
Recycyling Basket				●	1.00	x	1.25	2	1.25	2.50
Waste Receptacle				●	1.00	x	1.25	2	1.25	2.50
Equipment (no floor impact)										
Adminstrative Computer			●					2		
Adminstrative Printer			●					1		
Telephone			●					2		
MINIMUM SF - ITINERANT OFFICE										**195.00**
MODEL/ACTUAL SF - ITINERANT OFFICE										**200.00**

PRE-K ADMINISTRATOR	Provided By				Size			Total Rooms =		1
		SDA								
	DB/GC	FFE	Tech	D	D	x	W	QTY.	SF/UNIT	TOTAL SF
Occupants										
1st Occupant				●		–		1	60.00	60.00
Additional Occupants				●				1	15.00	15.00
Wall and Ceiling Mounted Equipment										
Clock/Intercom	●							1		
4 LF Tackboard	●							1		
4 LF Markerboard	●							1		
Floor Furniture and Equipment										
Office Desk		●			2.50	x	6.00	1	15.00	15.00
Office Return		●			2.00	x	4.00	1	8.00	8.00
Office Credenza		●			1.50	x	6.00	0	9.00	0.00
Desk Chair		●			2.00	x	2.00	1	4.00	4.00
Conference Table-Round		●			3.00	x	3.00	1	9.00	9.00
Guest Chair		●			2.00	x	2.00	3	4.00	12.00
Storage / Fixed Cabinetry and Equipment										
File Cabinet		●			1.50	x	2.50	2	3.75	7.50
Bookcase		●			1.00	x	2.50	1	2.50	2.50
Office Wardrobe/Storage		●			2.00	x	3.00	0	6.00	0.00
Recycyling Basket				●	1.00	x	1.25	1	1.25	1.25
Waste Receptacle				●	1.00	x	1.25	1	1.25	1.25
Equipment (no floor impact)										
Adminstrative Computer			●					1		
Adminstrative Printer			●					1		
Telephone			●					1		
MINIMUM SF - PRE-K ADMINISTRATOR OFFICE										**135.50**
MODEL/ACTUAL SF - PRE-K ADMINISTRATOR OFFICE										**175.00**

KINDERGARTEN CLASSROOM	Provided By				Size			Total Rooms =		4
		SDA								
	DB/GC	FFE	Tech	District	D	x	W	QTY.	SF/UNIT	TOTAL SF
Occupants										
Student				●		–		21	20.00	420.00
Teacher				●		–		2	20.00	40.00
Wall and Ceiling Mounted Equipment										
Sound Enhancement Speakers	●							1		
Sound Enhancement System	●							1		
Clock/Intercom	●							1		
Telephone			●					1		
Flag				●				1		
Tackboard- 4 LF	●							2		
Tackboard- 8 LF	●							1		
Tackstrip -above markerboard with flag/map holder	●							1		
Interactive White Board			●					1		
Floor Furniture and Equipment										
Teacher Desk		●			2.50	x	6.00	1	15.00	15.00
Teacher Chair		●			2.00	x	2.00	1	4.00	4.00
Student Table - Rectangular		●			2.50	x	5.00	5	12.50	62.50
Student Table - Bow/ Activity Table		●			6.00	x	1.75	1	10.50	10.50
Student Accessible Desk		●			1.50	x	3.00	1	4.50	4.50
Student Chairs		●			1.33	x	1.33	20	1.77	35.38
Student Chairs - Activity Table Chairs					1.33	x	1.33	4	1.77	7.08
Student Easel		●			2.00	x	2.00	2	4.00	8.00
Student Bean Bag Chair				●	1.00	x	1.50	5	1.50	7.50
Waste Receptacle				●	1.00	x	1.17	1	1.17	1.17
Recycling Basket				●	1.00	x	1.17	1	1.17	1.17
Storage / Fixed Cabinetry and Equipment										
File cabinet -2 drawer vertical		●			1.25	x	2.25	2	2.81	5.63
Sink Area/Bubbler w/ overhead storage	●				2.00	x	7.00	1	14.00	14.00
Bookcase - Wood		●			1.25	x	3.00	6	3.75	22.50
Student Wardrobe Hook and Cubby		●			1.25	x	4.00	4	5.00	20.00
Student Wardrobe Hook and Cubby		●			1.25	x	1.25	1	1.56	1.56
Storage Cabinet		●			2.00	x	3.00	2	6.00	12.00
Teacher Wardrobe/Storage		●			2.00	x	3.00	1	6.00	6.00
Tall/ Audio Visual Storage		●			2.00	x	4.00	1	8.00	8.00
Mobile Laptop Cart		●			1.50	x	3.00	1	4.50	4.50
Equipment (no floor impact)										
Teacher Computer			●					1		
Printer			●					1		
Other Program Considerations										
Area Rug				●	10.00	x	10.00	1		
MINIMUM SF - KINDERGARTEN CLASSROOM										**719.98**
MODEL/ACTUAL SF - KINDERGARTEN CLASSROOM										**900.00**

KINDERGARTEN CR W/ DESK FOR TEACHER'S AIDE	Provided By				Size			Total Rooms =		1
		SDA								
	DB/GC	FFE	Tech	District	D	x	W	QTY.	SF/UNIT	TOTAL SF
Occupants										
Student				●		–		21	20.00	420.00
Teacher				●		–		2	20.00	40.00
Wall and Ceiling Mounted Equipment										
Sound Enhancement Speakers	●							1		
Sound Enhancement System	●							1		
Clock/Intercom	●							1		
Telephone			●					1		
Flag				●				1		
Tackboard- 4 LF	●							2		
Tackboard- 8 LF	●							1		
Tackstrip -above markerboard with flag/map holder	●							1		
Interactive White Board			●					1		
Floor Furniture and Equipment										
Teacher Desk		●			2.50	x	6.00	1	15.00	15.00
Teacher'S Aide Desk		●			2.50	x	5.00	1	12.50	12.50
Teacher Chair		●			2.00	x	2.00	2	4.00	8.00
Student Table - Rectangular		●			2.50	x	5.00	5	12.50	62.50
Student Table - Bow/ Activity Table		●			6.00	x	1.75	1	10.50	10.50
Student Accessible Desk		●			1.50	x	3.00	1	4.50	4.50
Student Chairs		●			1.33	x	1.33	20	1.77	35.38
Student Chairs - Activity Table Chairs					1.33	x	1.33	4	1.77	7.08
Student Easel		●			2.00	x	2.00	2	4.00	8.00
Student Bean Bag Chair				●	1.00	x	1.50	5	1.50	7.50
Waste Receptacle				●	1.00	x	1.17	1	1.17	1.17
Recycling Basket				●	1.00	x	1.17	1	1.17	1.17
Storage / Fixed Cabinetry and Equipment										
File cabinet -2 drawer vertical		●			1.25	x	2.25	2	2.81	5.63
Sink Area/Bubbler w/ overhead storage	●				2.00	x	7.00	1	14.00	14.00
Bookcase - Wood		●			1.25	x	3.00	6	3.75	22.50
Student Wardrobe Hook and Cubby		●			1.25	x	4.00	4	5.00	20.00
Student Wardrobe Hook and Cubby		●			1.25	x	1.25	1	1.56	1.56
Storage Cabinet		●			2.00	x	3.00	2	6.00	12.00
Teacher Wardrobe/Storage		●			2.00	x	3.00	2	6.00	12.00
Tall/ Audio Visual Storage		●			2.00	x	4.00	1	8.00	8.00
Mobile Laptop Cart		●			1.50	x	3.00	1	4.50	4.50
Equipment (no floor impact)										
Teacher Computer			●					1		
Printer			●					1		
Other Program Considerations										
Area Rug				●	10.00	x	10.00	1		
MINIMUM SF - KINDERGARTEN CLASSROOM										**742.48**
MODEL/ACTUAL SF - KINDERGARTEN CLASSROOM										**900.00**

GENERAL CLASSROOM Gr. 1-3	Provided By				Size			Total Rooms =		12
		SDA								
	DB/GC	FFE	Tech	District	D	x	W	QTY.	SF/UNIT	TOTAL SF
Occupants										
Student				●		–		21	20.00	420.00
Teacher				●		–		2	20.00	40.00
Wall and Ceiling Mounted Equipment										
Sound Enhancement Speakers	●							1		
Sound Enhancement System	●							1		
Clock/Intercom	●							1		
Telephone			●					1		
Flag				●				1		
Interactive White Board			●					1		
Tackboard- 8 LF	●							1		
Tackboard- 4 LF	●							2		
Tackstrip -above markerboard with flag/map holder	●							1		
Floor Furniture and Equipment										
Teacher Desk		●			2.50	x	6.00	1	15.00	15.00
Teacher Chair		●			2.00	x	2.00	1	4.00	4.00
Student Chairs		●			1.67	x	1.50	25	2.51	62.63
Student Table - Rectangle		●			2.50	x	5.00	5	12.50	62.50
Student Accessible Desk		●			1.50	x	3.00	1	4.50	4.50
Student Activity Table - Kidney		●			1.83	x	5.50	1	10.07	10.07
Student Easel		●			2.00	x	2.00	2	4.00	8.00
Waste Receptacle				●	1.00	x	1.17	1	1.17	1.17
Recycling Basket				●	1.00	x	1.17	1	1.17	1.17
Storage / Fixed Cabinetry and Equipment										
File cabinet (2-drawer vertical)		●			1.25	x	2.25	2	2.81	5.63
Bookcase - Metal		●			1.25	x	3.00	6	3.75	22.50
Mobile Laptop Cart		●			1.50	x	3.00	1	4.50	4.50
Student Locker (for 8 students)		●			1.25	x	4.00	3	5.00	15.00
Storage Cabinet		●			2.00	x	3.00	3	6.00	18.00
Teacher Wardrobe/Storage		●			2.00	x	3.00	1	6.00	6.00
Equipment (no floor impact)										
Teacher Computer			●					1		
Printer			●					1		
Other Program Considerations										
Area Rug				●	8.00	x	12.00	1		
MINIMUM SF - GENERAL CLASSROOM - GR 1-3										**700.66**
MODEL/ACTUAL SF - GENERAL CLASSROOM - GR 1-3										**830.00**

GENERAL CLASSROOM Gr. 1-3 W/ DESK FOR TEACHER'S AIDE	Provided By				Size			Total Rooms =		3
		SDA								
	DB/GC	FFE	Tech	District	D	x	W	QTY.	SF/UNIT	TOTAL SF
Occupants										
Student				●		–		21	20.00	420.00
Teacher				●		–		2	20.00	40.00
Wall and Ceiling Mounted Equipment										
Sound Enhancement Speakers	●							1		
Sound Enhancement System	●							1		
Clock/Intercom	●							1		
Telephone			●					1		
Flag				●				1		
Interactive White Board			●					1		
Tackboard- 8 LF	●							1		
Tackboard- 4 LF	●							2		
Tackstrip -above markerboard with flag/map holder	●							1		
Floor Furniture and Equipment										
Teacher Desk		●			2.50	x	6.00	1	15.00	15.00
Teacher's Aide Desk		●			2.50	x	5.00	1	12.50	12.50
Teacher Chair		●			2.00	x	2.00	2	4.00	8.00
Student Chairs		●			1.67	x	1.50	25	2.51	62.63
Student Table - Rectangle		●			2.50	x	5.00	5	12.50	62.50
Student Accessible Desk		●			1.50	x	3.00	1	4.50	4.50
Student Activity Table - Kidney		●			1.83	x	5.50	1	10.07	10.07
Student Easel		●			2.00	x	2.00	2	4.00	8.00
Waste Receptacle				●	1.00	x	1.17	1	1.17	1.17
Recycling Basket				●	1.00	x	1.17	1	1.17	1.17
Storage / Fixed Cabinetry and Equipment										
File cabinet (2-drawer vertical)		●			1.25	x	2.25	2	2.81	5.63
Bookcase - Metal		●			1.25	x	3.00	6	3.75	22.50
Mobile Laptop Cart		●			1.50	x	3.00	1	4.50	4.50
Student Locker (for 8 students)		●			1.25	x	4.00	3	5.00	15.00
Storage Cabinet		●			2.00	x	3.00	3	6.00	18.00
Teacher Wardrobe/Storage		●			2.00	x	3.00	2	6.00	12.00
Equipment (no floor impact)										
Teacher Computer			●					1		
Printer			●					1		
Other Program Considerations										
Area Rug				●	8.00	x	12.00	1		
MINIMUM SF - GENERAL CLASSROOM - GR 1-3										**723.16**
MODEL/ACTUAL SF - GENERAL CLASSROOM - GR 1-3										**830.00**

GENERAL CLASSROOM Gr. 4-5	Provided By				Size			Total Rooms =		8
		SDA								
	DB/GC	FFE	Tech	District	D	x	W	QTY.	SF/UNIT	TOTAL SF
Occupants										
Student						–		23	20.00	460.00
Teacher						–		2	20.00	40.00
Wall and Ceiling Mounted Equipment										
Sound Enhancement Speakers	●							1		
Sound Enhancement System	●							1		
Clock/Intercom	●							1		
Telephone			●					1		
Flag				●				1		
Interactive White Board			●					1		
Tackboard- 8 LF	●							1		
Tackboard- 4 LF	●							2		
Tackstrip -above markerboard with flag/map holder	●							1		
Floor Furniture and Equipment										
Teacher Desk		●			2.50	x	6.00	1	15.00	15.00
Teacher Chair		●			2.00	x	2.00	1	4.00	4.00
Student Chairs		●			1.67	x	1.50	27	2.51	67.64
Student Table - Rectangle (5 Ft.)		●			2.50	x	5.00	6	12.50	75.00
Student Activity Table - Kidney		●			1.83	x	5.50	1	10.07	10.07
Student Easel		●			2.00	x	2.00	2	4.00	8.00
Waste Receptacle				●	1.00	x	1.17	1	1.17	1.17
Recycling Basket				●	1.00	x	1.17	1	1.17	1.17
Storage / Fixed Cabinetry and Equipment										
File cabinet (2-drawer vertical)		●			1.25	x	2.25	2	2.81	5.63
Bookcase - Metal		●			1.25	x	3.00	6	3.75	22.50
Mobile Laptop Cart		●			1.50	x	3.00	1	4.50	4.50
Student Locker (for 8 students)		●			1.25	x	4.00	3	5.00	15.00
Storage Cabinet		●			2.00	x	3.00	3	6.00	18.00
Teacher Wardrobe/Storage		●			2.00	x	3.00	1	6.00	6.00
Equipment (no floor impact)										
Teacher Computer			●					1		
Printer			●					1		
Other Program Considerations										
Area Rug				●	8.00	x	12.00	1		
MINIMUM SF - GENERAL CLASSROOM - GR 4-5										**753.67**
MODEL/ACTUAL SF - GENERAL CLASSROOM - GR 4-5										**830.00**

GENERAL CLASSROOM Gr. 4-5 W/ DESK FOR TEACHER'S AIDE	Provided By				Size			Total Rooms =		2
		SDA								
	DB/GC	FFE	Tech	District	D	x	W	QTY.	SF/UNIT	TOTAL SF
Occupants										
Student				●		–		23	20.00	460.00
Teacher				●		–		2	20.00	40.00
Wall and Ceiling Mounted Equipment										
Sound Enhancement Speakers	●							1		
Sound Enhancement System	●							1		
Clock/Intercom	●							1		
Telephone			●					1		
Flag				●				1		
Interactive White Board			●					1		
Tackboard- 8 LF	●							1		
Tackboard- 4 LF	●							2		
Tackstrip -above markerboard with flag/map holder	●							1		
Floor Furniture and Equipment										
Teacher Desk		●			2.50	x	6.00	1	15.00	15.00
Teacher's Aide Desk		●			2.50	x	5.00	1	12.50	12.50
Teacher Chair		●			2.00	x	2.00	2	4.00	8.00
Student Chairs		●			1.67	x	1.50	27	2.51	67.64
Student Table - Rectangle (5 Ft.)		●			2.50	x	5.00	6	12.50	75.00
Student Activity Table - Kidney		●			1.83	x	5.50	1	10.07	10.07
Student Easel		●			2.00	x	2.00	2	4.00	8.00
Waste Receptacle				●	1.00	x	1.17	1	1.17	1.17
Recycling Basket				●	1.00	x	1.17	1	1.17	1.17
Storage / Fixed Cabinetry and Equipment										
File cabinet (2-drawer vertical)		●			1.25	x	2.25	2	2.81	5.63
Bookcase - Metal		●			1.25	x	3.00	6	3.75	22.50
Mobile Laptop Cart		●			1.50	x	3.00	1	4.50	4.50
Student Locker (for 8 students)		●			1.25	x	4.00	3	5.00	15.00
Storage Cabinet		●			2.00	x	3.00	3	6.00	18.00
Teacher Wardrobe/Storage		●			2.00	x	3.00	2	6.00	12.00
Equipment (no floor impact)										
Teacher Computer			●					1		
Printer			●					1		
Other Program Considerations										
Area Rug				●	8.00	x	12.00	1		
MINIMUM SF - GENERAL CLASSROOM - GR 4-5										**776.17**
MODEL/ACTUAL SF - GENERAL CLASSROOM - GR 4-5										**830.00**

SELF CONTAINED SE CLASSROOM	Provided By				Size			Total Rooms =		4
		SDA								
	DB/GC	FFE	Tech	District	D	x	W	QTY.	SF/UNIT	TOTAL SF
Occupants										
Student				●		–		12	20.00	240.00
Teacher				●		–		2	20.00	40.00
Wall and Ceiling Mounted Equipment										
Sound Enhancement Speakers	●							1		
Sound Enhancement System	●							1		
Clock/Intercom	●							1		
Telephone			●					1		
Flag				●				1		
Interactive White Board			●					1		
Tackboard- 8LF	●							1		
Tackboard- 4 LF	●							1		
Tackstrip -above markerboard with flag/map holder	●							1		
Floor Furniture and Equipment										
Teacher Desk		●			2.50	x	6.00	1	15.00	15.00
Teacher Aide Station		●			2.50	x	5.00	1	12.50	12.50
Teacher Chair		●			2.00	x	2.00	2	4.00	8.00
Student Chairs		●			1.67	x	1.50	20	2.51	50.10
Student Table - Rectangle (5 ft.)		●			2.50	x	5.00	5	12.50	62.50
Student Table-Kidney		●			1.83	x	5.50	1	10.07	10.07
Mobile Laptop Cart		●			1.50	x	3.00	1	4.50	4.50
Waste Receptacle				●	1.00	x	1.17	1	1.17	1.17
Recycling Basket				●	1.00	x	1.17	1	1.17	1.17
Storage / Fixed Cabinetry and Equipment										
File cabinet (2-drawer vertical)		●			1.25	x	2.25	2	2.81	5.63
Sink Area w/ Overhead Storage	●				2.00	x	5.00	1	10.00	10.00
Bookcase - Metal		●			1.25	x	3.00	6	3.75	22.50
Student Locker (for 5 students)		●			1.25	x	4.00	3	5.00	15.00
Storage Cabinet		●			2.00	x	3.00	3	6.00	18.00
Teacher Wardrobe/Storage		●			2.00	x	3.00	2	6.00	12.00
Equipment (no floor impact)										
Teacher Computer			●					1		
Printer			●					1		
Other Program Considerations										
Area Rug				●	8.00	x	12.00	1		
MINIMUM SF - SCSE CLASSROOM										**528.13**
MODEL/ACTUAL SF - SCSE CLASSROOM										**800.00**

SCIENCE DEMO ROOM	Provided By				Size			Total Rooms =		1
		SDA								
	DB/GC	FFE	Tech	District	D	x	W	QTY.	SF/UNIT	TOTAL SF
Occupants										
Student				●		–		24	20.00	480.00
Teacher				●		–		1	20.00	20.00
Wall and Ceiling Mounted Equipment										
Sound Enhancement Speakers	●							1		
Sound Enhancement System	●							1		
Clock/Intercom	●							1		
Telephone			●					1		
Flag				●				1		
Interactive White Board			●					1		
Tackboard- 8 LF	●							1		
Tackboard- 4 LF	●							1		
Tackstrip -above markerboard with flag/map holder	●							1		
Sanitizing Goggle Cabinet with (24) goggles		●						1		
Safety Equipment - Eyewash, Fire Extinguisher, Fire Blanket	●							1		
Floor Furniture and Equipment										
Teacher Chair		●			2.00	x	2.00	1	4.00	4.00
Student Table Rectangular		●			2.00	x	6.00	12	12.00	144.00
Student Chairs		●			1.67	x	1.50	23	2.51	57.62
Student Printer Table		●			2.50	x	2.50	1	6.25	6.25
Waste Receptacle				●	1.00	x	1.17	1	1.17	1.17
Recycling Basket				●	1.00	x	1.17	1	1.17	1.17
Storage / Fixed Cabinetry and Equipment										
Teacher desk	●				2.50	x	6.00	1	15.00	15.00
Trough sink	●				2.00	x	6.00	1	12.00	12.00
Perimeter work counter with (3) sinks with hot and cold water	●				2.00	x	23.00	1	46.00	46.00
Teacher demo station with locking base cabinets, sink with hot and cold water, power, data outlet, and gas jets	●				2.50	x	6.00	1	15.00	15.00
Mobile Supply Cart		●			2.00	x	2.50	1	5.00	5.00
Mobile Laptop Cart		●			1.50	x	3.00	1	4.50	4.50
File cabinet (4-drawer vertical)		●			1.25	x	2.25	1	2.81	2.81
Bookcase	●				1.25	x	3.00	6	3.75	22.50
Tall Storage Cabinet	●				2.00	x	3.00	2	6.00	12.00
Miscroscope/Storage Cabinet	●				2.00	x	3.00	1	6.00	6.00
Emergency Safety Center	●				2.00	x	3.00	1	6.00	6.00
Teacher Wardrobe/Storage	●				2.00	x	3.00	1	6.00	6.00
Equipment (no floor impact)										
Teacher Computer			●					1		
Printer			●					1		
MINIMUM SF - SCIENCE DEMO RM										**867.02**
MODEL/ACTUAL SF - SCIENCE DEMO RM										**1200.00**

SGI/ SPEECH/ READING RECOVERY	Provided By				Size			Total Rooms =		4
		SDA								
	DB/GC	FFE	Tech	District	D	x	W	QTY.	SF/UNIT	TOTAL SF
Occupants										
Student				●		–		3	20.00	60.00
Teacher				●		–		1	20.00	20.00
Wall and Ceiling Mounted Equipment										
Sound Enhancement Speakers	●							1		
Sound Enhancement System	●							1		
Clock/Intercom	●							1		
Telephone			●					1		
Flag				●				1		
Markerboard-6 LF	●							1		
Tackboard-4 LF	●							3		
Tackstrip -above markerboard with flag/map holder	●							1		
Floor Furniture and Equipment										
Teacher Desk		●			2.50	x	6.00	1	15.00	15.00
Teacher Chair		●			2.00	x	2.00	1	4.00	4.00
Student Table-Rectangular (5 Ft.)		●			2.50	x	5.00	1	12.50	12.50
Student Chairs		●			1.67	x	1.50	4	2.51	10.02
Student Table-Kidney		●			1.83	x	5.50	1	10.07	10.07
Student Computer Table (5 Ft.)		●			2.50	x	5.00	1	12.50	12.50
Student Computer Chair		●			2.00	x	2.00	1	4.00	4.00
Waste Receptacle		●		●	1.00	x	1.17	1	1.17	1.17
Recycling Basket				●	1.00	x	1.17	1	1.17	1.17
Storage / Fixed Cabinetry and Equipment										
File Cabinet (4-drawer lateral)					1.50	x	2.50	1	3.75	3.75
Bookcase - Metal		●			1.50	x	3.00	2	4.50	9.00
Storage Cabinet	●	●			2.00	x	3.00	1	6.00	6.00
Teacher Wardrobe/Storage		●			2.00	x	3.00	1	6.00	6.00
Equipment (no floor impact)										
Teacher Computer			●					1		
Student Computer			●					1		
Printer			●					1		
MINIMUM SF - SGI										**175.18**
MODEL/ACTUAL SF - SGI										**200.00**

BASIC SKILLS/ESL	Provided By				Size			Total Rooms =		2
		SDA								
	DB/GC	FFE	Tech	District	D	x	W	QTY.	SF/UNIT	TOTAL SF
Occupants										
Student				●		–		12	20.00	240.00
Teacher				●		–		1	20.00	20.00
Wall and Ceiling Mounted Equipment										
Sound Enhancement Speakers	●							1		
Sound Enhancement System	●							1		
Clock/Intercom	●							1		
Telephone			●					1		
Flag				●				1		
Interactive White Board								1		
Tackboard-4 LF	●							2		
Tackstrip -above markerboard with flag/map holder	●							1		
Floor Furniture and Equipment										
Teacher Desk		●			2.50	x	6.00	1	15.00	15.00
Teacher Chair		●			2.00	x	2.00	1	4.00	4.00
Student Chair		●			1.67	x	1.50	11	2.51	27.56
Student Table-Rectangular (5 Ft.)		●			2.50	x	5.00	3	12.50	37.50
Student Locker (for 6 students)		●			1.25	x	4.00	2	5.00	10.00
Mobile Laptop Cart		●			1.50	x	3.00	1	4.50	4.50
Waste Receptacle				●	1.00	x	1.17	1	1.17	1.17
Recycling Basket				●	1.00	x	1.17	1	1.17	1.17
Storage / Fixed Cabinetry and Equipment										
File Cabinet (2-drawer vertical)		●			1.25	x	2.25	2	2.81	5.63
Bookcase - Metal		●			1.25	x	3.00	2	3.75	7.50
Storage Cabinet		●			2.00	x	3.00	1	6.00	6.00
Teacher Wardrobe/Storage		●			2.00	x	3.00	1	6.00	6.00
Equipment (no floor impact)										
Teacher Computer			●					1		
Printer			●					1		
MINIMUM SF -BASIC SKILLS/ESL										**392.27**
MODEL/ACTUAL SF - BASIC SKILLS/ESL										**400.00**

RESOURCE ROOM	Provided By				Size			Total Rooms =		1
		SDA								
	DB/GC	FFE	Tech	District	D	x	W	QTY.	SF/UNIT	TOTAL SF
Occupants										
Student				●		–		12	20.00	240.00
Teacher				●		–		1	20.00	20.00
Wall and Ceiling Mounted Equipment										
Sound Enhancement Speakers	●							1		
Sound Enhancement System	●							1		
Clock/Intercom	●							1		
Telephone			●					1		
Flag				●				1		
Interactive White Board			●					1		
Tackboard- 4 LF	●							2		
Tackstrip -above markerboard with flag/map holder	●							1		
Floor Furniture and Equipment										
Teacher Desk		●			2.50	x	6.00	1	15.00	15.00
Teacher Chair		●			2.00	x	2.00	1	4.00	4.00
Student Chair		●			1.67	x	1.50	11	2.51	27.56
Student Table-Rectangular (5 Ft.)		●			2.50	x	5.00	3	12.50	37.50
Student Locker (for 6 students)		●			1.25	x	4.00	2	5.00	10.00
Mobile Laptop Cart		●			1.50	x	3.00	1	4.50	4.50
Waste Receptacle				●	1.00	x	1.17	1	1.17	1.17
Recycling Basket				●	1.00	x	1.17	1	1.17	1.17
Storage / Fixed Cabinetry and Equipment										
File Cabinet (2-drawer vertical)		●			1.25	x	2.25	2	2.81	5.63
Bookcase - Metal		●			1.25	x	3.00	2	3.75	7.50
Storage Cabinet		●			2.00	x	3.00	1	6.00	6.00
Teacher Wardrobe/Storage		●			2.00	x	3.00	1	6.00	6.00
Equipment (no floor impact)										
Teacher Computer			●					1		
Printer			●					1		
MINIMUM SF - RESOURCE ROOM										**392.27**
MODEL/ACTUAL SF - RESOURCE ROOM										**400.00**

OCCUPATION THERAPY/ PHYSICAL THERAPY	Provided By				Size			Total Rooms =		1
		SDA								
	DB/GC	FFE	Tech	District	D	x	W	QTY.	SF/UNIT	TOTAL SF
Occupants										
Student						–		6	20.00	120.00
Teacher						–		1	20.00	20.00
Wall and Ceiling Mounted Equipment										
Sound Enhancement Speakers	●							1		
Sound Enhancement System	●							1		
Clock/Intercom	●							1		
Telephone			●					1		
Flag				●				1		
Interactive White Board			●					1		
Tackboard- 4 LF	●							2		
Tackstrip -above markerboard with flag/map holder	●							1		
Floor Furniture and Equipment										
Teacher Desk		●			2.50	x	6.00	1	15.00	15.00
Teacher Chair		●			2.00	x	2.00	1	4.00	4.00
Student Chair		●			1.67	x	1.50	5	2.51	12.53
Student Table-Rectangular (5 Ft.)		●			2.50	x	5.00	2	12.50	25.00
Student Locker (for 6 students)		●			1.25	x	4.00	1	5.00	5.00
Mobile Laptop Cart		●			1.50	x	3.00	1	4.50	4.50
Waste Receptacle				●	1.00	x	1.17	1	1.17	1.17
Recycling Basket				●	1.00	x	1.17	1	1.17	1.17
Storage / Fixed Cabinetry and Equipment										
Sink Area w/ overhead storage	●				2.00	x	3.00	1	6.00	6.00
File Cabinet (2-drawer vertical)		●			1.25	x	2.25	2	2.81	5.63
Bookcase - Metal		●			1.25	x	3.00	2	3.75	7.50
Storage Cabinet		●			2.00	x	3.00	1	6.00	6.00
Teacher Wardrobe/Storage		●			2.00	x	3.00	1	6.00	6.00
Equipment (no floor impact)				`						
Teacher Computer			●					1		
Printer			●					1		
Other Program Considerations										
Gross Motor Skills Area				●	8.00	x	6.00	1	48.00	48.00
MINIMUM SF - OCCUPATIONAL THERAPY/ PHYSICAL THERAPY										**293.74**
MODEL/ACTUAL SF - OCCUPATIONAL THERAPY/ PHYSICAL THERAPY										**400.00**

TEACHER WORKROOM	Provided By				Size			Total Rooms =		3
		SDA								
	DB/GC	FFE	Tech	D	D	x	W	QTY.	SF/UNIT	TOTAL SF
Occupants										
Occupant				●		–		11.00	8.00	88.00
Wall and Ceiling Mounted Equipment										
Clock/Intercom	●							1		
4 LF Markerboard	●							1		
4 LF Tackboard	●							1		
Tackstrip -above markerboard with flag/map holder	●							1		
Telephone			●					1		
Floor Furniture and Equipment										
Work Counter		●			2.00	x	8.00	3	16.00	48.00
Work Counter Chair		●			1.15	x	1.15	3	1.32	3.97
Refrigerator				●	2.50	x	2.50	1	6.25	6.25
Work Table (6 ft.)		●			2.50	x	6.00	1	15.00	15.00
Chairs		●			1.15	x	1.15	8	1.32	10.58
Recycling Basket				●	1.00	x	1.15	1	1.15	1.15
Waste Receptacle				●	1.00	x	1.15	1	1.15	1.15
Storage / Fixed Cabinetry and Equipment										
Counter w/ Sink, Storage above & below	●				2.00	x	6.50	1	13.00	13.00
Photocopier				●	1.35	x	4.00	1	5.40	5.40
Equipment (no floor impact)										
Computers/ Laptops			●					3		
MINIMUM SF - TEACHER WORKROOM										**192.50**
MODEL/ACTUAL SF - TEACHER WORKROOM										**200.00**

REMOTE ADMINISTRATIVE OFFICE	Provided By				Size			Total Rooms =		1
		SDA								
	DB/GC	FFE	Tech	D	D	x	W	QTY.	SF/UNIT	TOTAL SF
Occupants										
1st Occupant				●		–		1	60.00	60.00
Additional Occupants				●				2	15.00	30.00
Wall and Ceiling Mounted Equipment										
Clock/Intercom	●							1		
4 LF Tackboard	●							1		
4 LF Markerboard	●							1		
Floor Furniture and Equipment										
Office Desk		●			2.50	x	6.00	1	15.00	15.00
Office Return		●			2.00	x	4.00	1	8.00	8.00
Office Credenza		●			1.50	x	6.00	1	9.00	9.00
Desk Chair		●			1.50	x	1.50	1	2.25	2.25
Conference Table-Round		●			3.00	x	3.00	1	9.00	9.00
Guest Chair		●			1.50	x	1.50	4	2.25	9.00
Storage / Fixed Cabinetry and Equipment										
File Cabinet		●			1.50	x	2.50	1	3.75	3.75
Bookcase		●			1.00	x	2.50	1	2.50	2.50
Office Wardrobe/Storage		●			2.00	x	3.00	1	6.00	6.00
Recycyling Basket				●	1.00	x	1.25	1	1.25	1.25
Waste Receptacle				●	1.00	x	1.25	1	1.25	1.25
Equipment (no floor impact)										
Adminstrative Computer			●					1		
Adminstrative Printer			●					1		
Telephone			●					1		
MINIMUM SF - REMOTE ADMINISTRATIVE OFFICE										**157.00**
MODEL/ACTUAL SF - REMOTE ADMINISTRATIVE OFFICE										**175.00**
CONFERENCE ROOM	**Provided By**				**Size**			**Total Rooms =**		1
		SDA								
	DB/GC	**FFE**	**Tech**	**D**	**D**	**x**	**W**	**QTY.**	**SF/UNIT**	**TOTAL SF**
Occupants										
Students & Teachers				●		–		10	15.00	150.00
Wall and Ceiling Mounted Equipment										
Clock/Intercom	●							1		
Markerboard-4 LF	●							1		
Tackboard-8 LF	●							0		
Floor Furniture and Equipment										
Conference Table		●			4.00	x	9.00	1	36.00	36.00
Conference Credenza		●			1.50	x	6.00	1	9.00	9.00
Conference Chair		●			2.00	x	2.00	10	4.00	40.00
Computer Table		●			2.50	x	3.00	0	7.50	0.00
Computer Chair		●			2.00	x	2.00	0	4.00	0.00
Recycyling Basket				●	1.00	x	1.25	1	1.25	1.25
Waste Receptacle				●	1.00	x	1.25	1	1.25	1.25
Equipment (no floor impact)										
Computer			●					2		
Telephone			●					1		
MINIMUM SF - CONFERENCE ROOM										**237.50**
MODEL/ACTUAL SF - CONFERENCE ROOM										**250.00**

ITINERANT OFFICE	Provided By				Size			Total Rooms =		1
		SDA								
	DB/GC	FFE	Tech	D	D	x	W	QTY.	SF/UNIT	TOTAL SF
Occupants										
1st Occupant				●		–		1	50.00	50.00
Additional Occupants				●				5	15.00	75.00
Wall and Ceiling Mounted Equipment										
Clock/Intercom	●							1		
4 LF Tackboard	●							1		
4 LF Markerboard	●							1		
Floor Furniture and Equipment										
Office Desk		●			2.50	x	6.00	2	15.00	30.00
Office Return		●			2.00	x	4.00	0	8.00	0.00
Office Credenza		●			2.00	x	3.50	0	7.00	0.00
Desk Chair		●			1.25	x	1.25	2	1.56	3.13
Conference Table-Round		●			2.50	x	2.50	0	6.25	0.00
Guest Chair		●			1.25	x	1.25	4	1.56	6.25
Storage / Fixed Cabinetry and Equipment										
File Cabinet		●			1.50	x	2.50	5	3.75	18.75
Bookcase		●			1.00	x	2.50	0	2.50	0.00
Office Wardrobe/Storage		●			2.00	x	3.00	1	6.00	6.00
Recycyling Basket				●	1.00	x	1.12	1	1.12	1.12
Waste Receptacle				●	1.00	x	1.12	1	1.12	1.12
Equipment (no floor impact)										
Adminstrative Computer			●					1		
Adminstrative Printer			●					1		
Telephone			●					1		
MINIMUM SF - ITINERANT OFFICE										**191.37**
MODEL/ACTUAL SF - ITINERANT OFFICE										**200.00**

MULTI-PURPOSE/ ASSEMBLY ROOM	Provided By				Size			Total Rooms =		1
		SDA								
	GC	FFE	Tech	D	D	x	W	QTY.	SF/UNIT	TOTAL SF
Occupants										
Occupants				●		–		340	7.00	2380.00
Wall and Ceiling Mounted Equipment										
Projector			●		0.00	x	0.00	1	0.00	0.00
Pull Down Projection Screen	●				0.00	x	0.00	1	0.00	0.00
Ceiling Mount	●				0.00	x	0.00	1	0.00	0.00
Clock/Intercom	●				0.00	x	0.00	1	0.00	0.00
Telephone		●			0.00	x	0.00	1	0.00	0.00
Floor Furniture and Equipment										
Folding Chairs		●			1.67	x	1.50	340	2.51	851.70
Waste Receptacle				●	1.50	x	1.50	2	2.25	4.50
Recycling Basket				●	1.50	x	1.50	2	2.25	4.50
Equipment (no floor impact)										
Multi-Purpose Sound System	●				0.00	x	0.00	1	0.00	0.00
MINIMUM SF - MULTI-PURPOSE ROOM										**3240.70**
MODEL/ACTUAL SF - MULTI-PURPOSE ROOM										**3500.00**

TABLE/ CHAIR STORAGE ROOM	Provided By				Size			Total Rooms =		1
		SDA								
	GC	FFE	Tech	D	D	x	W	QTY.	SF/UNIT	TOTAL SF
Floor Furniture and Equipment										
Folding Chair Storage Carts	●				3.00	x	5.33	9	15.99	143.91
MINIMUM SF - STORAGE ROOM										**143.91**
MODEL/ACTUAL SF - STORAGE ROOM										**200.00**

STORAGE ROOM	Provided By				Size			Total Rooms =		1
		SDA								
	GC	FFE	Tech	D	D	x	W	QTY.	SF/UNIT	TOTAL SF
Floor Furniture and Equipment										
MODEL/ACTUAL SF - STORAGE ROOM										**100.00**

STAGE/INSTR. MUSIC ROOM	Provided By				Size			Total Rooms =		1
		SDA								
	DB/GC	FFE	Tech	District	D	x	W	QTY.	SF/UNIT	TOTAL SF
Occupants										
Occupants						–		50	20.00	1000.00
Wall and Ceiling Mounted Equipment										
Clock/Intercom	●							1		
Telephone			●					1		
4 LF Tackboard	●							1		
Floor Furniture and Equipment										
Movable Marker Board	●				1.50	x	5.00	1	7.50	7.50
Movable Folding Computer Table		●			1.50	x	5.00	1	7.50	7.50
Conductor's Podium with Chair and Stand			●		3.58	x	3.17	1	11.35	11.35
Student Music Chairs (Stackable)			●		1.67	x	1.92	50	3.21	160.32
Carts for Music Chairs (18 per cart)			●		2.17	x	3.25	3	7.05	21.16
Music Stand			●		1.00	x	0.50	50	0.50	25.00
Music Stand Carts (20 per cart)			●		2.17	x	5.67	3	12.30	36.91
Choral Riser Storage Cart			●		2.50	x	7.00	2	17.50	35.00
Waste Receptacle				●	1.50	x	1.50	1	2.25	2.25
Recycling Basket				●	1.50	x	1.50	1	2.25	2.25
Baby Grand Piano and Bench				●	8.00	x	4.00	1	32.00	32.00
Tone Bells				●	1.00	x	4.50	1	4.50	4.50
Base Drum				●	1.50	x	3.00	1	4.50	4.50
Snare Drum				●	1.50	x	1.50	2	2.25	4.50
Kettle Drum Set				●	2.00	x	8.00	1	16.00	16.00
Xylophone				●	1.50	x	4.00	1	6.00	6.00
Portable tiered riser system (for 75)		●			4.00	x	4.00	5	16.00	80.00
Storage / Fixed Cabinetry and Equipment										
Sink Area w/ overhead storage	●				2.00	x	6.00	1	12.00	12.00
Equipment (no floor impact)		●								
								1		
								4		
		●						1		
		●						1		
MINIMUM SF - STAGE/INSTR. MUSIC ROOM (incl Storage room)										**1468.74**
MODEL/ACTUAL SF - STAGE/INSTR. MUSIC ROOM (incl. Storage room)										**1800.00**

CAFETERIA	Provided By				Size			Total Rooms =		1
		SDA								
	DB/GC	FFE	Tech	D	D	x	W	QTY.	SF/UNIT	TOTAL SF
Occupants										
Occupants				●		–		234	10.00	2340.00
Wall and Ceiling Mounted Equipment										
Projector			●		0.00	x	0.00	1	0.00	0.00
Pull Down Projection Screen	●				0.00	x	0.00	1	0.00	0.00
Ceiling Mount	●				0.00	x	0.00	1	0.00	0.00
Clock/Intercom	●				0.00	x	0.00	1	0.00	0.00
Telephone		●			0.00	x	0.00	1	0.00	0.00
Floor Furniture and Equipment										
Table-mobile, folding w/ attached benches		●			4.33	x	12.00	15	51.96	779.40
Cafeteria Trash/Recycle Receptacle				●	2.00	x	2.00	8	4.00	32.00
Vending Machines				●	3.00	x	3.00	3	9.00	27.00
Equipment (no floor impact)										
Multi-Purpose Sound System	●				0.00	x	0.00	1	0.00	0.00
MINIMUM SF - MULTI-PURPOSE/ASSEMBLY ROOM										**3178.40**
MODEL/ACTUAL SF - MULTI-PURPOSE ASSEMBLY ROOM										**3750.00**

FOOD SERVICE	Provided By				Size			Total Rooms =		1
		SDA								
	DB/GC	FFE	Tech	D	D	x	W	QTY.	SF/UNIT	TOTAL SF
Wall and Ceiling Mounted Equipment										
Clock/Intercom	●				0.00	x	0.00	1	0.00	0.00
Telephone		●			0.00	x	0.00	1	0.00	0.00
Floor Furniture and Equipment										
Full Service Kitchen including serving lines and storage	●					–				2147.00
Office	●									86.00
Cashier Stool		●			1.75	x	1.75	2	3.06	6.13
Cash Register				●	0.00	x	0.00	2	0.00	0.00
Recycyling Basket				●	1.00	x	1.25	1	1.25	1.25
Waste Receptacle				●	1.00	x	1.25	1	1.25	1.25
Equipment (no floor impact)										
Smallwares- pots, pans, spoons, etc.				●	0.00	x	0.00	0	0.00	0.00
MINIMUM SF - FOOD SERVICE										**2241.63**
MODEL/ACTUAL SF - FOOD SERVICE										**2350.00**

STORAGE	Provided By				Size			Total Rooms		2
		SDA								
	DB/GC	FFE	Tech	D	D	x	W	QTY.	SF/UNIT	TOTAL SF
Storage for Cafeteria tables	●				0.00	x	0.00	0	0.00	125.00
MINIMUM SF - STORAGE ROOM										**125.00**
MODEL/ACTUAL SF - STORAGE ROOM										**125.00**

FACULTY CONFERENCE/DINING	Provided By				Size			Total Rooms=		1
		SDA								
	DB/GC	FFE	Tech	D	D	x	W	QTY.	SF/UNIT	TOTAL SF
Occupants										
Staff				●		–		24.00	10.00	240.00
Wall and Ceiling Mounted Equipment										
Clock/ Intercom	●							1		
6 LF Markerboard	●							1		
4 LF Tackboard	●							2		
Telephone			●					1		
Projector			●					1		
Pull Down Projection Screen			●					1		
Ceiling Mount	●							1		
Sound Enhancement Speakers	●							1		
Sound Enhancement System	●							1		
Floor Furniture and Equipment										
Tables		●			2.50	x	8.00	4	20.00	80.00
Chairs		●			1.83	x	2.00	24	3.66	87.84
Refrigerator				●	2.55	x	2.73	1	6.96	6.96
Sink Area w/overhead storage	●				2.00	x	4.50	1	9.00	9.00
Dry Counter w/overhead storage	●				2.00	x	6.00	1	12.00	12.00
Recycyling Basket				●	1.00	x	1.25	1	1.25	1.25
Waste Receptacle				●	1.00	x	1.25	1	1.25	1.25
Equipment (no floor impact)										
Microwave				●				1		
MINIMUM SF -FACULTY CONFERENCE/DINING										**438.30**
MODEL/ACTUAL SF - FACULTY CONFERENCE/DINING										**450.00**

GYMNASIUM	Provided By				Size			Total Rooms =		1
		SDA								
	DB/GC	FFE	Tech	District	D	x	W	QTY.	SF/UNIT	TOTAL SF
Occupants										
Occupants				●		–		46	100.00	4600.00
Wall and Ceiling Mounted Equipment										
Clock	●							2		
Flag				●				1		
Pull Up Bars	●							2		
Climbing Wall	●							1		
Folding Basketball Goals	●							6		
Volleyball Sleeves and Standards (Pairs)	●							3		
Large Projector Screen	●							1		
Tackboard - 12 LF	●							1		
Tackstrip -above tackboard with flag/map holder	●							1		
Markerboard - 4 LF	●							1		
Floor Furniture and Equipment										
Moveable Interactive White Board			●							
Scorer Table		●			2.00	x	5.00	1	10.00	10.00
Folding chairs		●			2.00	x	2.00	2	4.00	8.00
Bleachers (Retractable)	●				2.00	x	36.00	2	72.00	144.00
Equipment (no floor impact)										
Wall Pads (End Walls)	●									
Electronic Scoreboard	●							2		
Local Sound System	●							1		
Telephone			●					1		
MINIMUM SF - GYMNASIUM										**4762.00**
MODEL/ACTUAL SF* - GYMNASIUM										**4800.00**

PE OFFICE	Provided By				Size			Total Rooms =		2
		SDA								
	DB/GC	FFE	Tech	District	D	x	W	QTY.	SF/UNIT	TOTAL SF
Occupants										
1st Occupant				●		–		1	60.00	60.00
Additional Occupants				●				1	15.00	15.00
Wall and Ceiling Mounted Equipment										
White Board - 4 LF	●							1		
Clock	●							1		
Floor Furniture and Equipment										
Office Desk		●			2.50	x	5.00	1	12.50	12.50
Desk Chair		●			2.00	x	2.00	1	1.00	1.00
Guest Chair		●			1.58	x	1.58	1	2.00	2.00
Recycyling Basket				●	1.00	x	1.25	1	1.25	1.25
Waste Receptacle				●	1.00	x	1.25	1	1.25	1.25
Storage / Fixed Cabinetry and Equipment										
File Cabinet 4 Drawer Lateral		●			1.50	x	2.50	1	3.75	3.75
Equipment (no floor impact)										
Adminstrative Computer			●					1		
Adminstrative Printer			●					0		
Telephone			●					1		
MINIMUM SF - PE OFFICE										**96.75**
MODEL/ACTUAL SF* - PE OFFICE										**125.00**

STORAGE ROOM(S)	Provided By				Size			Total Rooms =		2
		SDA								
	DB/GC	FFE	Tech	District	D	x	W	QTY.	SF/UNIT	TOTAL SF
Floor Furniture and Equipment										
Industrial Shelving	●				2.50	x	3.00	10	7.50	75.00
MINIMUM SF - STORAGE ROOM										**75.00**
MODEL/ACTUAL SF* - STORAGE ROOM(S)										**200.00**

VOCAL MUSIC ROOM	Provided By				Size			Total Rooms =		1
		SDA								
	DB/GC	FFE	Tech	District	D	x	W	QTY.	SF/UNIT	TOTAL SF
Occupants										
Student						–		24	20.00	480.00
Teacher						–		1	20.00	20.00
Wall and Ceiling Mounted Equipment										
Sound Enhancement Speakers	●							1		
Sound Enhancement System	●							1		
Clock/Intercom	●							1		
Telephone			●					1		
Flag				●				1		
Markerboard-12 LF	●							0		
Tackboard-4 LF	●							2		
Tackboard-8LF	●							1		
Interactive White Board			●					1		
Tackstrip -above markerboard with flag/map holder	●							1		
Floor Furniture and Equipment										
Teacher Desk		●			2.50	x	6.00	1	15.00	15.00
Teacher Chair		●			2.00	x	2.00	1	4.00	4.00
Conductor's Podium with Chair and Stand		●			3.58	x	3.17	1	11.35	11.35
Baby Grand Piano and Bench				●	8.00	x	4.00	1	32.00	32.00
Student Music Chair with Moveable Tablet Arm		●			1.67	x	1.92	22	3.21	70.54
Student Computer Table 6 Ft.		●			2.50	x	6.00	2	15.00	30.00
Student Computer Table 5 Ft.		●			2.50	x	5.00	1	12.50	12.50
Student Computer Chair		●			2.00	x	2.00	5	4.00	20.00
Waste Receptacle				●	1.00	x	1.17	1	1.17	1.17
Recycling Basket				●	1.00	x	1.17	1	1.17	1.17
Storage / Fixed Cabinetry and Equipment										
File cabinet (4-drawer vertical)		●			1.25	x	2.33	1	2.91	2.91
Sound System Cabinet		●			1.50	x	2.00	1	3.00	3.00
Tall Sheet Music Folio Cabinet		●			1.58	x	2.67	2	4.22	8.44
Storage Cabinet		●			1.50	x	3.00	2	4.50	9.00
Teacher Wardrobe/Storage		●			1.50	x	3.00	1	4.50	4.50
Instrument storage cabinets			●		1.50	x	2.50	17	3.75	63.75
Equipment (no floor impact)										
Teacher Computer		●						1		
Student Computer		●						5		
Printer		●						1		
Interactive Device		●						0		
MINIMUM SF - MUSIC ROOM										**789.33**
MODEL/ACTUAL SF - MUSIC ROOM										**900.00**

STORAGE ROOM	Provided By				Size			Total Rooms=		1
		SDA								
	DB/GC	FFE	Tech	District	D	x	W	QTY.	SF/UNIT	TOTAL SF
Instrument storage cabinets		●			1.50		2.50	5	3.75	18.75
Piccolos, flutes, clarinets, bass clarinets, trumpets, trombones, french horns, tubas, bass, drums, snare drums, cymbals, bongos, violins, violas, cello, etc.				●		–				
Choir Robe Storage Cabinet		●			3.00	x	4.00	1	12.00	12.00
MINIMUM SF -STORAGE ROOM										**30.75**
MODEL/ACTUAL SF -STORAGE ROOM										**50.00**

INSTRUMENTAL MUSIC OFFICE/LESSON ROOM	Provided By				Size			Total Rooms=		1
		SDA								
	GC	FFE	Tech	D	D	x	W	QTY.	SF/UNIT	TOTAL SF
Occupants										
Students						–		5	20.00	100.00
Teacher Chair						–		1	20.00	20.00
Wall and Ceiling Mounted Equipment										
Clock/Intercom								1		
Telephone								1		
4 LF Markerboard								1		
4 LF Tackboard								1		
Floor Furniture and Equipment										
Teacher Desk		●			2.50	x	6.00	1	15.00	15.00
Teacher Return		●			2.00	x	4.00	1	8.00	8.00
Teacher Chair		●			2.00	x	2.00	1	4.00	4.00
Guest Chair		●			2.00	x	2.00	4	4.00	16.00
Student Table-Rectangular		●			2.00	x	5.00	1	10.00	10.00
Student Posture Chair		●			1.67	x	1.92	5	3.21	16.03
Music Stand		●			1.00	x	0.50	5	0.50	2.50
Waste Receptacle				●	1.00	x	1.17	1	1.17	1.17
Recycling Basket				●	1.00	x	1.17	1	1.17	1.17
Storage / Fixed Cabinetry and Equipment										
File Cabinet (4-drawer lateral)		●			1.25	x	2.33	1	2.91	2.91
Storage Cabinet		●			2.00	x	3.00	1	6.00	6.00
Teacher Wardrobe/Storage		●			2.00	x	3.00	1	6.00	6.00
Pedestal Sink	●				2.00	x	2.00	1	4.00	4.00
Equipment (no floor impact)										
Teacher Computer			●					1		
Printer			●					1		
MINIMUM SF - OFFICE/LESSON ROOM										**208.78**
MODEL/ACTUAL SF - OFFICE LESSON ROOM										**300.00**

INSTRUMENTAL STORAGE ROOM	Provided By				Size			Total Rooms=		1
		SDA								
	DB/GC	FFE	Tech	District	D	x	W	QTY.	SF/UNIT	TOTAL SF
Storage Shelving		●			2.00		18.00	1	36.00	36.00
MINIMUM SF -STORAGE ROOM										**36.00**
MODEL/ACTUAL SF -STORAGE ROOM										**100.00**

STAFF LOCKER/ BREAK ROOM	Provided By				Size			Total Rooms =		1
		SDA								
	DB/GC	FFE	Tech	D	D	x	W	QTY.	SF/UNIT	TOTAL SF
Occupants										
Occupant				●		–		10	20.00	200.00
Wall and Ceiling Mounted Equipment										
Clock/Intercom	●							1		
Floor Furniture and Equipment										
Lockers	●				1.00	x	14.00	1	14.00	14.00
Drafting Table		●			3.00	x	4.00	0	12.00	0.00
Drafting Stool		●			2.00	x	2.00	0	1.00	0.00
Table		●			2.50	x	5.00	1	12.50	12.50
Refrigerator				●	2.75	x	2.50	1	6.88	6.88
Stove				●	2.00	x	2.50	1	5.00	5.00
Sink Cabinet w/ storage above & below	●				3.00	x	2.00	1	6.00	6.00
Recycyling Basket				●	1.00	x	1.25	1	1.25	1.25
Waste Receptacle				●	1.00	x	1.25	1	1.25	1.25
Equipment (no floor impact)										
Telephone			●					1		
Other Program Considerations										
Toilet	●							1		50.00
Shower	●							1		50.00
MINIMUM SF - CUSTODIAL WORKROOM										**346.88**
MODEL/ACTUAL SF - CUSTODIAL WORKROOM										**400.00**

CUSTODIAL OFFICE/BACKUP ECC	Provided By				Size			Total Rooms		1
		SDA								
	DB/GC	FFE	Tech	D	D	x	W	QTY.	SF/UNIT	TOTAL SF
Occupants										
1st Occupant				●		–		1	60.00	60.00
Additional Occupants				●				2	15.00	30.00
Wall and Ceiling Mounted Equipment										
Clock/Intercom	●							1		
Floor Furniture and Equipment										
Worksurface (perimeter of room)		●			2.00	x	28.00	1	56.00	56.00
Desk Chair		●			2.00	x	2.00	3	4.00	12.00
Recycyling Basket				●	1.00	x	1.25	1	1.25	1.25
Waste Receptacle				●	1.00	x	1.25	1	1.25	1.25
Equipment (no floor impact)										
Telephone			●					1		
MINIMUM SF - BACKUP EMERGENCY CONTROL CENTER										**160.50**
MODEL/ACTUAL SF - BACKUP EMERGENCY CONTROL CENTER										**200.00**

MEDIA CENTER	Provided By				Size			Total Rooms=		1
		SDA								
	DB/GC	FFE	Tech	District	D	x	W	QTY.	SF/UNIT	TOTAL SF
Occupants										
Occupants						–		48	20.00	960.00
Wall and Ceiling Mounted Equipment										
Interactive whiteboard-Moveable			●					1		
Clock/Intercom	●							1		
Telephone			●					1		
Flag				●				1		
Floor Furniture and Equipment										
Circulation Desk		●			20.00	x	2.50	1	50.00	50.00
Circulation Desk Chair		●			1.83	x	2.00	2	3.66	7.32
Lounge Chair		●			2.50	x	2.50	6	6.25	37.50
Mobile Book Cart		●			2.50	x	1.75	3	4.38	13.13
Bookshelves		●			3.00	x	1.00	106	3.00	318.00
Copy Machine				●	4.50	x	2.50	1	11.25	11.25
Display Case		●			2.50	x	5.00	2	12.50	25.00
Corridor Display Case		●			1.50	x	4.00	5	6.00	30.00
Card Catalog				●	2.00	x	3.00	1	6.00	6.00
New Book Display		●			3.00	x	6.00	1	18.00	18.00
Media Storage		●			2.00	x	3.00	1	6.00	6.00
Waste Receptacle				●	1.00	x	1.17	1	1.17	1.17
Recycling Basket				●	1.00	x	1.17	1	1.17	1.17
Map/Atlas Stand		●			2.00	x	2.50	1	5.00	5.00
Dictionary Stand		●			2.00	x	5.00	1	10.00	10.00
Student Table		●			3.00	x	3.00	6	9.00	54.00
Student Chair		●			1.50	x	1.50	24	2.25	54.00
Computer Station		●			2.50	x	5.00	12	12.50	150.00
Computer Chair		●			1.67	x	1.50	24	2.51	60.12
Printer Station		●			2.50	x	2.50	2	6.25	12.50
Teacher Glider Chair		●			2.50	x	2.50	1	6.25	6.25
Magazine Rack		●			3.00	x	2.00	1	6.00	6.00
Paperback Rack		●			1.50	x	1.50	2	2.25	4.50
Student cubbies/ lockers		●			1.50	x	4.00	6	6.00	36.00
Interactive whiteboard-Moveable			●		1.00	x	6.00	1	6.00	6.00
Equipment (no floor impact)										
Computer at Circulation Desk			●					1		
Printer at Circulation Desk			●					1		
General Use Computer			●					24		
Printer (on printer table)			●					2		
Other Program Considerations										
Area Rug				●	12.00	x	18.00	1		
MINIMUM SF - MEDIA CENTER										**1888.91**
MODEL/ACTUAL SF- MEDIA CENTER										**3000.00**

MEDIA CENTER OFFICE/WKRM.	Provided By				Size			Total Rooms =		1
		SDA								
	DB/GC	FFE	Tech	District	D	x	W	QTY.	SF/UNIT	TOTAL SF
Occupants										
1st Occupant						–		1	20.00	20.00
Additional Occupants						–		1	20.00	20.00
Wall and Ceiling Mounted Equipment										
Clock/Intercom	●							1		
Telephone		●						1		
4 LF Tackboard	●							1		
Floor Furniture and Equipment										
Teacher Desk		●			2.50	x	6.00	0	15.00	0.00
Teacher Chair		●			2.00	x	2.00	0	4.00	0.00
Work Table		●			2.00	x	5.00	1	10.00	10.00
Work Table Chair		●			1.67	x	1.83	1	3.06	3.06
Computer Table		●			2.00	x	5.00	1	10.00	10.00
Computer Chair		●			1.67	x	1.83	1	3.06	3.06
Mobile Book Cart		●			2.50	x	1.75	0	4.38	0.00
Waste Receptacle				●	1.00	x	1.17	1	1.17	1.17
Recycling Basket				●	1.00	x	1.17	1	1.17	1.17
Storage / Fixed Cabinetry and Equipment										
Perimeter counter w/ sink, storage above and below	●				2.00	x	7.00	2	14.00	28.00
File cabinet (4-drawer vertical)		●			1.25	x	2.33	0	2.91	0.00
Wardrobe Cabinet		●			1.50	x	2.00	0	3.00	0.00
Tall Storage Cabinet		●			2.00	x	3.00	1	6.00	6.00
Tall Bookshelves		●			1.00	x	3.00	1	3.00	3.00
Media Storage		●			2.00	x	3.00	1	6.00	6.00
Equipment (no floor impact)										
Computer			●					1		
Printer (on Computer Table)			●					1		
Other Program Considerations										
Located behind circulation desk; Window with blinds	●									
MINIMUM SF - MEDIA CENTER OFFICE/WKRM.										**105.45**
MODEL/ACTUAL SF- MEDIA CENTER OFFICE/WKRM.										**147.00**

MEDIA CENTER SERVER/STORAGE ROOM	Provided By				Size			Total Rooms =		1
		SDA								
	DB/GC	FFE	Tech	District	D	x	W	QTY.	SF/UNIT	TOTAL SF
Open shelves	●				1.50	**x**	2.50	2	3.75	7.50
Tall Storage Cabinet		●			1.50	x	3.00	2	4.50	9.00
MINIMUM SF - INSTRU. MUSIC STORAGE ROOM										**7.50**
MODEL/ACTUAL SF- INSTRU. MUSIC STORAGE ROOM										**92.00**

TECHNOLOGY/ PROJECT LAB	Provided By				Size			Total Rooms =		1
		SDA								
	DB/GC	FFE	Tech	District	D	x	W	QTY.	SF/UNIT	TOTAL SF
Occupants										
Student						–		24	20.00	480.00
Teacher						–		1	20.00	20.00
Wall and Ceiling Mounted Equipment										
Sound Enhancement Speakers	●							1		
Sound Enhancement System	●							1		
Clock/Intercom	●							1		
Telephone			●					1		
Flag				●				1		
Interactive White Board			●					1		
Markerboard- 6 LF	●							0		
Tackboard- 8 LF	●							2		
Tackstrip -above markerboard with flag/map holder	●							1		
Floor Furniture and Equipment										
Mobile Demonstration Desk		●			2.50	x	6.00	0	15.00	0.00
Teacher Desk		●			2.50	x	6.00	1	15.00	15.00
Teacher Chair		●			2.00	x	2.00	1	4.00	4.00
Student Workstations		●			2.00	x	12.00	0	24.00	0.00
Student Chairs		●			1.67	x	1.50	23	2.51	57.62
Student Project Table		●			4.50	x	5.50	2	24.75	49.50
Student Work Table		●			4.00	x	4.00	6	16.00	96.00
Student Computer Chair		●			2.00	x	2.00	0	4.00	0.00
Student Printer Table		●			2.50	x	2.50	1	6.25	6.25
Student Scanner Station		●			2.50	x	2.50	1	6.25	6.25
Mobile Laptop Cart		●			1.50	x	3.00	1	4.50	4.50
Waste Receptacle				●	1.00	x	1.17	1	1.17	1.17
Recycling Basket				●	1.00	x	1.17	1	1.17	1.17
Interactive Whiteboard-moveable			●		2.00	x	6.00	0	12.00	0.00
Storage / Fixed Cabinetry and Equipment										
Sink Center and adjacent counter with storage below and above	●				2.00	x	7.75	1	15.50	15.50
File cabinet (4-drawer vertical)		●			1.25	x	2.33	1	2.91	2.91
Teacher Wardrobe/Storage		●			2.00	x	3.00	1	6.00	6.00
Storage Cabinet		●			2.00	x	3.00	3	6.00	18.00
Equipment (no floor impact)										
Teacher Computer		●						1		
Student Computer/ Laptop		●								
Printer		●						1		
Interactive Device		●						0		
MINIMUM SF - TECHNOLOGY LAB										**783.87**
MODEL/ACTUAL SF - TECH NOLOGY LAB										**900.00**

TECHNOLOGY CLASSROOM	Provided By				Size			Total Rooms =		1
		SDA								
	DB/GC	FFE	Tech	District	D	x	W	QTY.	SF/UNIT	TOTAL SF
Occupants										
Student						–		23	20.00	460.00
Teacher						–		1	20.00	20.00
Wall and Ceiling Mounted Equipment										
Projector			●					1		
Pull Down Projection Screen			●					1		
Ceiling Mount	●							1		
Sound Enhancement Speakers			●					1		
Sound Enhancement System			●					1		
Clock/Intercom	●							1		
Telephone			●					1		
Flag				●				1		
Markerboard-12 LF	●							1		
Tackboard-16 LF	●							1		
Tackstrip -above markerboard with flag/map holder	●							1		
Floor Furniture and Equipment										
Teacher Desk		●			2.50	x	6.00	1	15.00	15.00
Teacher Chair		●			2.00	x	2.00	1	4.00	4.00
Student Desk		●			1.50	x	2.00	22	3.00	66.00
Student Chairs		●			1.67	x	1.50	24	2.51	60.12
Student Table - Rectangle		●			2.50	x	5.00	1	12.50	12.50
Student Accessible Desk		●			1.50	x	3.00	1	4.50	4.50
Student Computer Table		●			2.50	x	6.00	2	15.00	30.00
Student Computer Table		●			3.50	x	5.00	1	17.50	17.50
Student Computer Chair		●			1.33	x	1.33	5	1.77	8.84
Waste Receptacle				●	1.00	x	1.17	1	1.17	1.17
Recycling Basket				●	1.00	x	1.17	1	1.17	1.17
Storage / Fixed Cabinetry and Equipment										
File cabinet (4-drawer vertical)		●			1.25	x	2.33	2	2.91	5.83
Bookcase - Metal		●			1.25	x	3.00	6	3.75	22.50
Student Locker (for 5 students)		●			1.25	x	4.00	5	5.00	25.00
Storage Cabinet		●			2.00	x	3.00	3	6.00	18.00
Teacher Wardrobe/Storage		●			2.00	x	3.00	1	6.00	6.00
Equipment (no floor impact)										
Teacher Computer			●					1		
Student Computer			●					4		
Printer			●					1		
Interactive Device			●					1		
Other Program Considerations										
MINIMUM SF - TECHNOLOGY CLASSROOM										**778.13**
MODEL/ACTUAL SF - TECHNOLOGY CLASSROOM										**850.00**

ART ROOM	rovided By				Size			Total Rooms =		1
		SDA								
	DB/GC	FFE	Tech	District	D	x	W	QTY.	SF/UNIT	TOTAL SF
Occupants										
Student						–		24	20.00	480.00
Teacher						–		1	20.00	20.00
Wall and Ceiling Mounted Equipment										
Sound Enhancement Speakers	●							1		
Sound Enhancement System	●							1		
Clock/Intercom	●							1		
Flag				●				1		
Tackboard-locate on all open walls - 4 LF	●							3		
Tackstrip -above markerboard with flag/map holder	●							1		
Sanitizing Goggle Cabinet with (24) goggles	●							1		
Floor Furniture and Equipment										
Mobile teacher demonstration station	●				2.50	x	5.00	1	12.50	12.50
Teacher Chair		●			2.00	x	2.00	1	4.00	4.00
Student Tables		●			2.00	x	6.00	12	12.00	144.00
Student Chairs		●			1.67	x	1.50	22	2.51	55.11
Student Printer Table		●			2.50	x	2.50	1	6.25	6.25
Mobile Laptop Cart					1.50	x	3.00	1	4.50	4.50
Waste Receptacle				●	1.00	x	1.17	1	1.17	1.17
Recycling Basket				●	1.00	x	1.17	1	1.17	1.17
Interactive whiteboard-Moveable			●		1.00	x	6.00	1	6.00	6.00
Storage / Fixed Cabinetry and Equipment										
Teacher Desk	●				2.50	x	6.00	1	15.00	15.00
Trough Sink Station with storage overhead	●				2.00	x	7.00	1	14.00	14.00
Perimeter Counter with drawer units below and overhead open shelves above adjacent to sinks	●				2.00	x	10.00	1	20.00	20.00
Drying rack				●	2.50	x	5.33	1	13.33	13.33
Pottery Wheels				●	2.00	x	3.00	1	6.00	6.00
File cabinet (2-drawer vertical)		●			1.25	x	2.33	1	2.91	2.91
Tall Storage Cabinet	●				2.00	x	3.00	2	6.00	12.00
Tall Storage Cabinet with Tote Trays	●				2.00	x	4.00	1	8.00	8.00
Tall Storage Cabinet w/ open slots for student work	●				2.00	x	3.00	2	6.00	12.00
Paper Storage Cabinet (sheets up to 30 x 40)	●				2.50	x	4.00	2	10.00	20.00
Teacher Wardrobe/Storage	●				2.00	x	3.00	1	6.00	6.00
Equipment (no floor impact)										
Teacher Computer			●					1		
Printer			●					1		
Telephone			●					1		
Mobile Supply Cart	●							1		
Easel (foldable; placed in storage when not in use)		●			2.00	x	2.00	1	4.00	4.00
ART ROOM STORAGE	**Provided By**				**Size**					
		SDA								
	DB/GC	**FFE**	**Tech**	**District**	**D**	**x**	**W**	**QTY.**	**SF/UNIT**	**TOTAL SF**
Tall Open Shelving	●				2.00	x	8.50	1	17.00	17.00
Locakable Flammable Materials Cabinet	●				2.00	x	4.00	1	8.00	8.00
ART ROOM KILN	**Provided By**				**Size**					
		SDA								
	DB/GC	**FFE**	**Tech**	**District**	**D**	**x**	**W**	**QTY.**	**SF/UNIT**	**TOTAL SF**
Kiln				●	4.00	x	4.00	2	16.00	32.00
Tall Open Shelving	●				2.00	x	3.00	2	6.00	12.00
Flammable Materials Cabinet	●				3.00	x	3.00	0	9.00	0.00
MINIMUM SF - ART ROOM										**936.94**
MODEL/ACTUAL SF - ART ROOM										**1200.00**

NURSE'S OFFICE	Provided By				Size			Total Rooms=		1
		SDA								
	DB/GC	FFE	Tech	D	D	x	W	QTY.	SF/UNIT	TOTAL SF
Occupants										
Occupants				●		–		6	20.00	120.00
Wall and Ceiling Mounted Equipment										
Clock/Intercom	●							1		
Telephone		●						1		
4 LF Tackboard with flag holder	●							1		
Privacy Curtain on Track	●							3		
Floor Furniture and Equipment										
Office Desk		●			2.50	x	5.00	2	12.50	25.00
Desk Chair		●			2.00	x	2.00	2	4.00	8.00
Reception/Visitor Chair		●			2.00	x	2.00	5	4.00	20.00
End Table		●			1.50	x	1.50	1	2.25	2.25
Resting Cot		●			2.50	x	6.00	3	15.00	45.00
Exam Table		●			2.50	x	6.00	1	15.00	15.00
Exam Stool		●			1.83	x	1.83	1	3.35	3.35
Wheelchair				●	1.83	x	2.00	1	3.66	3.66
Scale				●	1.00	x	1.00	1	1.00	1.00
Mobile Cart				●	2.50	x	2.00	1	5.00	5.00
Medical Waste Receptacle				●	1.50	x	1.50	1	2.25	2.25
Recycling Basket				●	1.00	x	1.25	2	1.25	2.50
Waste Receptacle				●	1.00	x	1.25	2	1.25	2.50
Refrigerator				●	2.50	x	2.75	1	6.88	6.88
Storage / Fixed Cabinetry and Equipment										
Wardrobe/Storage Cabinet		●			2.00	x	3.00	2	6.00	12.00
File Cabinet - 4-drawer vertical		●			1.25	x	2.33	1	2.91	2.91
Sink counter and overhead lockable storage	●				2.00	x	7.00	1	14.00	14.00
Equipment (no floor impact)										
Adminstrative Computer			●					2		
Adminstrative Printer			●					1		
MINIMUM SF - RECEPTION/NURSE'S OFFICE/COTS/EXAM AREA										**291.30**
MODEL/ACTUAL SF - RECEPTION/INTAKE/NURSE'S OFFICE/COTS/EXAM AREA										**600.00**

LOCKABLE STORAGE ROOM	Provided By				Size			Total Rooms=		1
		SDA								
	DB/GC	FFE	Tech	D	D	x	W	QTY.	SF/UNIT	TOTAL SF
MINIMUM SF - LOCAKABLE STORAGE ROOM										
MODEL/ACTUAL SF - LOCAKABLE STORAGE ROOM										**50.00**

MAIN OFFICE RECEPTION/WAITING AREA	Provided By				Size			Total Rooms =		1
		SDA								
	DB/GC	FFE	Tech	D	D	x	W	QTY.	SF/UNIT	TOTAL SF
Occupants										
1st Occupant				●		–		1	60.00	60.00
Additional Occupants				●				8	15.00	120.00
Wall and Ceiling Mounted Equipment										
4 LF Tackboard	●							3	0.00	0.00
Teacher mailbox area					2.00	x	9.00	1	18.00	18.00
Clock/Intercom	●							1		0.00
Floor Furniture and Equipment										
Reception Counter	●				2.50	x	7.50	1	18.75	18.75
Guest Chair		●			2.00	x	2.00	4	4.00	16.00
Office Desk		●			2.50	x	5.50	4	13.75	55.00
Office Return		●			2.00	x	3.50	4	7.00	28.00
Desk Chair		●			2.00	x	2.00	5	4.00	20.00
Recycyling Basket				●	1.00	x	1.25	5	1.25	6.25
Waste Receptacle				●	1.00	x	1.25	5	1.25	6.25
Storage / Fixed Cabinetry and Equipment										
File Cabinet (4 drawer lateral)		●			1.50	x	2.50	6	3.75	22.50
Bookcase		●			1.50	x	3.00	0	4.50	0.00
Wardrobe		●			2.00	x	3.00	1	6.00	6.00
Storage Cabinet		●			2.00	x	3.00	1	6.00	6.00
Equipment (no floor impact)										
Adminstrative Computer			●					4		
Adminstrative Printer			●					1		
Telephone		●						5		
Fax Machine			●					1		
MINIMUM SF - MAIN OFFICE/RECEPTION/ WAITING AREA										**382.75**
MODEL/ACTUAL SF - MAIN OFFICE/RECEPTION/WAITING AREA										**600.00**

WORKROOM	Provided By				Size			Total Rooms =		1
		SDA								
	DB/GC	FFE	Tech	D	D	x	W	QTY.	SF/UNIT	TOTAL SF
Occupants										
Occupants				●		–		4	15.00	60.00
Wall and Ceiling Mounted Equipment										
Clock/Intercom	●				0.00	x	0.00	1	0.00	0.00
Floor Furniture and Equipment										
Conference Table Work Table					2.50		5.00	1	12.50	12.50
Work Table Chair		●			1.45	x	1.45	4	2.10	8.41
Recycyling Basket				●	1.00	x	1.25	1	1.25	1.25
Waste Receptacle				●	1.00	x	1.25	1	1.25	1.25
Storage / Fixed Cabinetry and Equipment										
Work Counter, open storage above and drawers/cabinets below	●				2.00	x	11.50	1	23.00	23.00
Office Wardrobe/Storage		●			2.00	x	3.00	1	6.00	6.00
Storage Cabinet		●			2.00		3.00	1	6.00	6.00
Copy Machine				●	1.50	x	4.00	1	6.00	6.00
Equipment (no floor impact)										
Telephone		●			0.00	x	0.00	1	0.00	0.00
MINIMUM SF - WORKROOM										**124.41**
MODEL/ACTUAL SF - WORKROOM										**125.00**

PRINCIPAL'S OFFICE	Provided By				Size			Total Rooms =		1
		SDA								
	DB/GC	FFE	Tech	D	D	x	W	QTY.	SF/UNIT	TOTAL SF
Occupants										
1st Occupant				●		–		1	60.00	60.00
Additional Occupants				●				2	15.00	30.00
Wall and Ceiling Mounted Equipment										
Clock/Intercom	●							1		
4 LF Tackboard	●							1		
4 LF Markerboard	●							1		
Floor Furniture and Equipment										
Office Desk		●			2.50	x	6.00	1	15.00	15.00
Office Bridge		●			2.00	x	4.00	1	8.00	8.00
Office Credenza		●			1.50	x	6.00	1	9.00	9.00
Desk Chair		●			2.00	x	2.00	1	4.00	4.00
Conference Table-Round		●			3.00	x	3.00	1	9.00	9.00
Guest Chair		●			2.00	x	2.00	4	4.00	16.00
Storage / Fixed Cabinetry and Equipment										
File Cabinet		●			1.50	x	2.50	1	3.75	3.75
Recycyling Basket				●	1.00	x	1.25	1	1.25	1.25
Waste Receptacle				●	1.00	x	1.25	1	1.25	1.25
Equipment (no floor impact)										
Adminstrative Computer			●					1		
Adminstrative Printer			●					1		
Telephone			●					1		
MINIMUM SF -PRINCIPAL'S OFFICE										**157.25**
MODEL/ACTUAL SF - PRINCIPAL'S OFFICE										**200.00**

RECORDS & TEST STORAGE ROOM	Provided By				Size			Total Rooms =		1
		SDA								
	DB/GC	FFE	Tech	D	D	x	W	QTY.	SF/UNIT	TOTAL SF
Floor Furniture and Equipment										
File Cabinet		●			1.50	x	2.50	10	3.75	37.50
MINIMUM SF - RECORD STORAGE ROOM										**37.50**
MODEL/ACTUAL SF - RECORD STORAGE ROOM										**100.00**

CONFERENCE ROOM	Provided By				Size			Total Rooms =		1
		SDA								
	GC	FFE	Tech	D	D	x	W	QTY.	SF/UNIT	TOTAL SF
Occupants										
Occupants				●		–		8	15.00	120.00
Wall and Ceiling Mounted Equipment										
6 LF Markerboard	●							1		
4 LF Tackboard	●							1		
Clock/Intercom	●				0.00	x	0.00	1	0.00	0.00
Floor Furniture and Equipment										
Conference Table		●			4.00	x	9.00	1	36.00	36.00
Conference Chair		●			1.83	x	2.00	8	3.66	29.28
Recycyling Basket				●	1.00	x	1.25	1	1.25	1.25
Waste Receptacle				●	1.00	x	1.25	1	1.25	1.25
Equipment (no floor impact)										
Telephone		●						1		
MINIMUM SF - CONFERENCE ROOM										**187.78**
MODEL/ACTUAL SF - CONFERENCE ROOM										**200.00**

OFFICE SUPPLY STORAGE ROOM	Provided By				Size			Total Rooms =		1
		SDA								
	DB/GC	FFE	Tech	D	D	x	W	QTY.	SF/UNIT	TOTAL SF
Floor Furniture and Equipment										
Shelving for storage	●				2.00	x	12.00	1	24.00	24.00
MINIMUM SF - OFFICE SUPPLY STORAGE ROOM										**24.00**
MODEL/ACTUAL SF - OFFICE SUPPLY STORAGE ROOM										**50.00**

STUDENT SERVICES RECEPTION	Provided By				Size			Total Rooms =		1
		SDA								
	DB/GC	FFE	Tech	D	D	x	W	QTY.	SF/UNIT	TOTAL SF
Occupants										
1st Occupant				●		–		0	60.00	0.00
Additional Occupants				●				5	15.00	75.00
Wall and Ceiling Mounted Equipment										
Clock/Intercom	●							1		
Floor Furniture and Equipment										
Office Desk w/counter		●			2.50	x	6.00	0	15.00	0.00
Office Return		●			2.00	x	4.00	0	8.00	0.00
Desk Chair		●			1.25	x	1.25	0	1.56	0.00
Guest Chair		●			1.25	x	1.25	5	1.56	7.81
Recycyling Basket				●	1.00	x	1.25	1	1.25	1.25
Waste Receptacle				●	1.00	x	1.25	1	1.25	1.25
Storage / Fixed Cabinetry and Equipment										
Bookcase		●			1.00	x	2.50	0	2.50	0.00
File Cabinet		●			1.25	x	2.25	0	2.81	0.00
Equipment (no floor impact)										
Adminstrative Computer			●					0		
Adminstrative Printer			●					0		
Telephone			●					0		
MINIMUM SF - RECEPTION										**85.31**
MODEL/ACTUAL SF - RECEPTION										**150.00**

CHILD STUDY TEAM OFFICE	Provided By				Size			Total Rooms =		3
		SDA								
	DB/GC	FFE	Tech	D	D	x	W	QTY.	SF/UNIT	TOTAL SF
Occupants										
1st Occupant				●		–		1	60.00	60.00
Additional Occupants				●				1	15.00	15.00
Wall and Ceiling Mounted Equipment										
4 LF Markerboard	●							1		
Clock/Intercom	●							1		
Floor Furniture and Equipment										
Office Desk		●			2.50	x	6.00	1	15.00	15.00
Office Return		●			2.00	x	4.00	1	8.00	8.00
Desk Chair		●			2.00	x	2.00	1	1.00	1.00
Guest Chair		●			2.00	x	2.00	1	2.00	2.00
Recycyling Basket				●	1.00	x	1.25	1	1.25	1.25
Waste Receptacle				●	1.00	x	1.25	1	1.25	1.25
Storage / Fixed Cabinetry and Equipment										
Bookcase		●			1.00	x	2.50	1	2.50	2.50
File Cabinet Lateral		●			1.50	x	2.50	1	3.75	3.75
Office Wardrobe/Storage		●			2.00	x	3.00	1	6.00	6.00
Equipment (no floor impact)										
Adminstrative Computer			●					1		
Adminstrative Printer			●					1		
Telephone			●					1		
MINIMUM SF - CST OFFICE										**115.75**
MODEL/ACTUAL SF - CST OFFICE										**125.00**

GUIDANCE OFFICE	Provided By				Size			Total Rooms =		2
		SDA								
	DB/GC	FFE	Tech	D	D	x	W	QTY.	SF/UNIT	TOTAL SF
Occupants										
1st Occupant				●		–		1	60.00	60.00
Additional Occupants				●				1	15.00	15.00
Wall and Ceiling Mounted Equipment										
4 LF Markerboard	●							1		
Clock/Intercom	●							1		
Floor Furniture and Equipment										
Office Desk		●			2.50	x	6.00	1	15.00	15.00
Office Return		●			2.00	x	4.00	1	8.00	8.00
Desk Chair		●			2.00	x	2.00	1	1.00	1.00
Guest Chair		●			2.00	x	2.00	3	2.00	6.00
Recyling Basket				●	1.00	x	1.25	1	1.25	1.25
Waste Receptacle				●	1.00	x	1.25	1	1.25	1.25
Storage / Fixed Cabinetry and Equipment										
Bookcase		●			1.00	x	2.50	1	2.50	2.50
File Cabinet Lateral		●			1.50	x	2.50	1	3.75	3.75
Office Wardrobe/Storage		●			2.00	x	3.00	1	6.00	6.00
Equipment (no floor impact)										
Adminstrative Computer			●					1		
Adminstrative Printer			●					1		
Telephone			●					1		
MINIMUM SF - GUIDANCE OFFICE										**128.75**
MODEL/ACTUAL SF - GUIDANCE OFFICE										**175.00**

ITINERANT OFFICE	Provided By				Size			Total Rooms =		1
		SDA								
	DB/GC	FFE	Tech	D	D	x	W	QTY.	SF/UNIT	TOTAL SF
Occupants										
1st Occupant				●		–		1	40.00	40.00
Additional Occupants				●				3	10.00	30.00
Wall and Ceiling Mounted Equipment										
Clock/Intercom	●							1		
4 LF Tackboard	●							0		
4 LF Markerboard	●							2		
Floor Furniture and Equipment										
Office Desk		●			2.50	x	5.00	2	12.50	25.00
Office Return		●			2.00	x	4.00	0	8.00	0.00
Office Credenza		●			2.00	x	3.50	0	7.00	0.00
Desk Chair		●			1.25	x	1.25	2	1.56	3.13
Conference Table-Round		●			2.50	x	2.50	0	6.25	0.00
Guest Chair		●			1.25	x	1.25	2	1.56	3.13
File Cabinet		●			1.50	x	2.50	2	3.75	7.50
Bookcase		●			1.00	x	2.50	2	2.50	5.00
Office Wardrobe/Storage		●			2.00	x	3.00	1	6.00	6.00
Recycyling Basket				●	1.00	x	1.12	2	1.12	2.24
Waste Receptacle				●	1.00	x	1.12	2	1.12	2.24
Equipment (no floor impact)										
Adminstrative Computer			●					2		
Adminstrative Printer			●					1		
MINIMUM SF - ITINERANT OFFICE										**124.23**
MODEL/ACTUAL SF - ITINERANT OFFICE										**125.00**

CONFERENCE ROOM	Provided By				Size			Total Rooms =		1
		SDA								
	DB/GC	FFE	Tech	D	D	x	W	QTY.	SF/UNIT	TOTAL SF
Occupants										
Students & Teachers				●		–		6	15.00	90.00
Wall and Ceiling Mounted Equipment										
Clock/Intercom	●							1		
Markerboard-4 LF	●							1		
Tackboard-8 LF	●							0		
Floor Furniture and Equipment										
Conference Table		●			4.00	x	4.00	1	16.00	16.00
Conference Credenza		●			1.50	x	6.00	1	9.00	9.00
Conference Chair		●			2.00	x	2.00	4	4.00	16.00
Computer Table		●			2.50	x	3.00	2	7.50	15.00
Computer Chair		●			2.00	x	2.00	2	4.00	8.00
Recycyling Basket				●	1.00	x	1.25	1	1.25	1.25
Waste Receptacle				●	1.00	x	1.25	1	1.25	1.25
Equipment (no floor impact)										
Computer			●					2		
Telephone			●					1		
MINIMUM SF - CONFERENCE ROOM										**156.50**
MODEL/ACTUAL SF - CONFERENCE ROOM										**200.00**
STORAGE	**Provided By**				**Size**			**Total Rooms =**		1
		SDA								
	DB/GC	FFE	Tech	D	D	x	W	QTY.	SF/UNIT	TOTAL SF
Floor Furniture and Equipment										
File Cabinet		●			1.50	x	2.50	10	3.75	37.50
MINIMUM SF - RECORD STORAGE ROOM										**37.50**
MODEL/ACTUAL SF - RECORD STORAGE ROOM										**75.00**

PARENT COMMUNITY	Provided By				Size			Total Rooms =		1
		SDA								
Occupants										
Student/ Parent						–		8	20.00	160.00
Wall and Ceiling Mounted Equipment										
Pull Down Projection Screen	●							0		
Clock/Intercom	●							1		
Telephone			●					1		
Markerboard- 6 LF	●							1		
Tackboard- 8 LF	●							1		
Floor Furniture and Equipment										
Teacher Desk		●			2.50	x	6.00	1	15.00	15.00
Teacher Chair		●			2.00	x	2.00	1	4.00	4.00
Student Table - Rectangular		●			2.50	x	5.00	2	12.50	25.00
Student Combo Desk/Chair		●			3.00	x	1.50	0	4.50	0.00
Computer Table		●			2.50	x	5.00	1	12.50	12.50
Student Chair		●			2.00	x	2.00	9	4.00	36.00
Waste Receptacle				●	1.00	x	1.17	1	1.17	1.17
Recycling Basket				●	1.00	x	1.17	1	1.17	1.17
Storage / Fixed Cabinetry and Equipment										
Sink Cabinet w/ countertop and storage above	●				2.00	x	6.50	1	13.00	13.00
Bookcase		●			1.25	x	3.00	2	3.75	7.50
Equipment (no floor impact)										
Computer			●					2		
Printer			●					1		
Other Program Considerations										
Area Rug										
MINIMUM SF - PARENT COMMUNITY ROOM										**295.34**
MODEL/ACTUAL SF - PARENT COMMUNITY ROOM										**300.00**

PARENT COMMUNITY LIASON	Provided By				Size			Total Rooms =		3
		SDA								
	DB/GC	**FFE**	**Tech**	**D**	**D**	**x**	**W**	**QTY.**	**SF/UNIT**	**TOTAL SF**
Occupants										
1st Occupant				●		–		1	60.00	60.00
Additional Occupants				●				1	15.00	15.00
Wall and Ceiling Mounted Equipment										
4 LF Markerboard	●							1		
Clock/Intercom	●							1		
Floor Furniture and Equipment										
Office Desk		●			2.50	x	6.00	1	15.00	15.00
Office Return		●			2.00	x	4.00	0	8.00	0.00
Guest Chair		●			1.25	x	1.25	1	1.56	1.56
Recycyling Basket				●	1.00	x	1.17	1	1.17	1.17
Waste Receptacle				●	1.00	x	1.17	1	1.17	1.17
Storage / Fixed Cabinetry and Equipment										
Bookcase		●			1.00	x	2.50	0	2.50	0.00
File Cabinet Lateral		●			1.50	x	2.50	1	3.75	3.75
Office Wardrobe/Storage		●			2.00	x	3.00	0	6.00	0.00
Equipment (no floor impact)										
Adminstrative Computer			●					1		
Adminstrative Printer			●					0		
Telephone			●					1		
MINIMUM SF - PARENT COMMUNITY LIASON										**99.22**
MODEL/ACTUAL SF - PARENT COMMUNITY LIASON										**100.00**

EMERGENCY CONTROL CENTER	Provided By				Size			Total Rooms =		1
		SDA								
	DB/GC	FFE	Tech	D	D	x	W	QTY.	SF/UNIT	TOTAL SF
Occupants										
1st Occupant				●		–		1	60.00	60.00
Additional Occupants				●				1	15.00	15.00
Wall and Ceiling Mounted Equipment										
Clock/Intercom	●							1		
Floor Furniture and Equipment										
Worksurface (perimeter of room)		●			2.00	x	18.00	1	36.00	36.00
Desk Chair		●			2.00	x	2.00	2	4.00	8.00
Recycyling Basket				●	1.00	x	1.25	1	1.25	1.25
Waste Receptacle				●	1.00	x	1.25	1	1.25	1.25
Equipment (no floor impact)										
Telephone			●					1		
MINIMUM SF -EMERGENCY CONTROL CENTER										**121.50**
MODEL/ACTUAL SF -EMERGENCY CONTROL CENTER										**200.00**

Jersey City New Elementary School #3
Early Site Package
NJSDA Contract # GP-0084-L06

POST DEMOLITION SITE CONDITION REPORT & ENVIRONMENTAL SPECIFICATIONS

Block 837, Lots A7, B2 & B3
Jersey City, New Jersey

Prepared for:

New Jersey Schools Development Authority
1 West State Street
P.O. Box 991
Trenton, New Jersey 08625-0991

Prepared by:

The Louis Berger Group, Inc.
412 Mount Kemble Avenue
P.O. Box 1946
Morristown, New Jersey 07962-1946

March 2013

TABLE OF CONTENTS

Appendices

I. EARLY SITE PACKAGE CONSTRUCTION

The Louis Berger Group, Inc. (LBG) prepared construction documents on behalf of the New Jersey Schools Development Authority (NJSDA) for the Early Site Package (ESP) at the New Elementary School #3 in the Jersey City, Hudson County, New Jersey (the Site). Historically, multiple generations of development had occurred onsite to support industrial operations, as well as the construction of a ventilation shaft for the rail line that runs beneath the property. Prior to NJSDA's acquisition of the property, all above grade structures were demolished and the property was covered by concrete slabs and asphalt. These remnant floor slabs and roadways were represented to, and accepted by, the New Jersey Department of Environmental Protection (NJDEP) as engineering controls that prohibited direct contact with underlying "Historic Fill", which exhibited concentrations of several polycyclic aromatic hydrocarbon compounds (PAHs), polychlorinated biphenyls (PCBs) and Metals above the NJDEP Residential Direct Contact Soil Remediation Standards (SRS). As developed both within this document and within the Remedial Action Work Plan, the replacement of these engineering controls, following NJDEP's Presumptive Remedies, will be part of the redevelopment of the property. The slabs and roadways also limited the extent of construction feasibility investigations and environmental remediation that could occur. Consequently, the purposes of the ESP were as follows:

1. Remove and dispose of the concrete and asphalt cover, as well as any debris or subsurface structures encountered that could impact construction;
2. Confirm the results of previous geotechnical work, including soil structure and depth to bedrock;
3. Remove and dispose of any petroleum impacted material identified through the course of work;
4. Remove and dispose of soil in two previously identified areas that exhibited mercury concentrations exceeding a calculated Site-Specific Impact to Groundwater Soil Remediation Standard (IGWSRS) – MEX-1 and MEX-2;
5. Remove and dispose of soil in a previously identified area that exhibited cobalt concentrations exceeding a the respective IGWSRS – CEX-1;
6. Clear the property to allow for geophysical investigations, to further search for subsurface structures that could impact future construction, and investigate / remove any anomalies identified by that work; and,
7. Grade the property to leave it in a defined condition.

The contract was awarded to Tricon Enterprise, Inc. (Tricon) on September 21, 2012 and Notice to Proceed was issued on October 11, 2012. Tricon mobilized on November 12 and 13, 2012 and began onsite activities on November 14, 2012.

Upon completion of the concrete and debris removal, LBG performed two geophysical investigations with Ground Penetrating Radar (GPR) to further search for subsurface structures that could impact future construction. The first investigation occurred on December 11, 2012, upon completion of Phase I. The second investigation was performed on January 29, 2013, upon

completion of the Phase II concrete removal. Combined, both surveys encompassed the entire property, including the site within the property lines and adjacent sidewalks along Jefferson Ave., Summit Ave., and Laidlaw Ave. Anomalies identified by the geophysical investigation were excavated and disposed off-site.

The ESP, as well as the remainder of the project, will be developed in further detail in Section IV of this report and is being executed under the NJDEP's Licensed Site Remediation Professional (LSRP) program. Information obtained during the course of this work will be included in a Remedial Action Report (RAR), completed by the LSRP upon completion of the property re-development.

A. Concrete Removal

Through completion of concrete removal, approximately 13,000 tons of concrete have been excavated and disposed of offsite. Concrete disposal manifests received by LBG will be included in the RAR. The concrete removed from site was a result of slabs which varied in depth from 4" to 12", and footings with a maximum depth of 10 feet. The concrete was loaded onsite and hauled to Durable Recycling LLC (Durable) in Bayonne, New Jersey. Durable is a Class B recycling center approved by the NJDEP to receive concrete, brick, cinder block, tile, and non-chemically treated wood waste. Based on Durables review of chip sampling results performed by Mid-Atlantic Environmental Laboratories, Inc., and overseen by LBG, on November 21, 2012, Durable confirmed their acceptance of the material. Concrete acceptance letters from Durable are included in Appendix 3 of this report.

LBG notes that past analysis of concrete chip samples, summarized in the Remedial Action Workplan (RAW), had indicated PCB concentrations that exceeded the SRS; however, the sampling referenced above did not detect PCBs at concentrations above the SRS. Therefore, future concrete removals should assume disposal of concrete as solid waste.

B. Fill and Debris Removal

Prior to the ESP, the sloped bank along Summit Ave. and Jefferson Ave. contained fill and debris that had accumulated after the initial building demolition. As part of the ESP, Tricon excavated and disposed of this material offsite. Through completion of this phase of work, approximately 4,500 tons of fill and debris has been disposed offsite to Durable. Fill and debris manifests received by LGB will be included in the RAR.

C. Impacted Soil Removal

Petroleum Impacted Soil

Through the course of concrete and debris removal and investigation of the geophysical anomalies, petroleum impacted materials were encountered in association with subsurface

structures. In addition to areas identified during concrete removal, the following ten (10) locations were found to require additional environmental action, which was completed during the ESP.

- EX-1 – A concrete vault measuring approximately 20 ft. x 20 ft. and located 56 ft. north of Laidlaw Ave and 182 ft. east of Summit Ave was observed and removed. The vault appeared to contain metal and brick debris and did not have water. Oily staining was observed in the soil adjacent to the northern, eastern and southern walls of the vault. A small drain was also observed southeast of the concrete vault located approximately 41 ft. north of Laidlaw Ave and 230 ft. east of Summit Ave.
- EX-2 – A 4" diameter pipe at approximately 3.5' below ground surface (bgs) was covered in a petroleum product (visibly free product). The product was black to dark brown and appeared to be weathered. Photoionization Detection (PID) readings were typically between zero and three. However, as a result of the free product discovery, the NJDEP was notified through their Action Hotline (1-877-WARNDEP; Tracking Number 121212121146; Operator #34).
- EX-3 – Hydraulic lift equipment was discovered approximately 67 ft. north of Laidlaw Ave. and 67 ft. east of Summit Ave. Oily staining was observed in the soil adjacent to the equipment.
- EX-4 – A possible truck scale was observed approximately 100 ft. north of Laidlaw Ave and 170 ft. east of Summit Ave. The scale platform no longer appeared to be present but the hydraulic lift still remained. The lift was observed to be approximately 4 ft. below ground surface. Stained soil/concrete/metal and brick debris were observed around the scale. Stained perched groundwater was also observed in the excavation approximately 5 ft. below ground surface.
- EX-6 – A portion of an 8 inch pipe was observed approximately 3 ft. bgs. Slightly stained soil was also observed in the immediate vicinity of the pipe.
- EX-7 – An area of oily stained soil was observed under concrete footers that were removed to the east of Area #2, approximately 96 ft. north of Laidlaw Ave and 74 ft. east of Summit Ave. Some miscellaneous pipes were also observed in the vicinity of the stained soil.
- EX-8 – A large concrete structure measuring approximately 20 ft. x 20 ft. and located 89 ft. north of Laidlaw Ave and 215 ft. east of Summit Ave was observed and removed. Stained soil, concrete, metal and brick debris were observed around the structure. A small concrete pit measuring approximately 5 ft. by 10 ft. was observed and removed adjacent to the hopper structure. The pit was observed to contain metal debris. Oily stained soil was observed around the pit.
- EX-9 – Six cylindrical pits measuring 15 ft. in diameter filled with water and located approximately 118 ft. north of Laidlaw Ave and 235 ft. east of Summit Ave were observed and removed. The water within the pits appeared to have an oily sheen and staining. Staining was also observed in the soil adjacent to the western pit.

- EX-10 – A large concrete footer measuring approximately 20 ft. x 20 ft., at a depth of 7 ft., and located 61 ft. north of Laidlaw Ave and 257 ft. east of Summit Ave was observed. Stained soil with some metal and brick debris was observed around the footer.
- EX-11 – A portion of a 12 inch pipe was observed approximately 3 ft. bgs. Stained soil was observed in the immediate vicinity of the pipe.

In all ten (10) cases, samples of the visible free product were fingerprinted to determine the type of petroleum product. Based on the sample results, all ten (10) cases were determined to be hydraulic oil.

Following the discovery of these areas, Tricon excavated the structures and stockpiled the petroleum product and adjacent impacted soils. The limits of these excavations were based on PID screening and visible free product screening at the direction of the NJSDA and the LBG field representative. For further post-excavation sampling details, reference Section III Remedial Action Update, in this report.

Tricon performed their waste classification sampling of the petroleum impacted soil, per disposal facility requirements, on January 16, 2013. Based on the sampling results, Tricon gained acceptance for the impacted soil at the Cumberland County Solid Waste Complex (Cumberland) in Millville, New Jersey. Petroleum impacted material acceptance letters are included in Appendix 3 of this report.

Disposal at Cumberland began on January 29, 2013 and is still in progress as of March 21, 2013. In total, approximately 2,400 tons of petroleum impacted soil has been excavated and disposed of offsite, thus far. The remainder of the petroleum impacted soil, which has been excavated and stockpiled onsite, will be disposed of offsite by the ESP Contractor prior to award of the Design-Build Contract. Additionally, all concrete and construction debris associated with the areas described above were also removed and disposed of offsite. Petroleum impacted soil manifests received by LGB will be included in the RAR.

Mercury Impacted Soil

Based on historic sampling performed by JM Sorge, Inc. in 2003, mercury concentrations above the IGWSRS were present on-site in two areas; identified as MEX-1 and MEX-2 on Figure 1. Based on the results of in-situ post-excavation sampling, the mercury impacted material areas were excavated and stockpiled for disposal offsite. Tricon performed their waste classification sampling, per disposal facility requirements, on February 7, 2013. Based on the sampling results, Tricon gained acceptance for the mercury impacted soil at Cumberland. Mercury impacted soil acceptance letters are included in Appendix 3 of this report.

Disposal of mercury impacted soil began on February 20, 2013 and is still in progress as of March 21, 2013. Approximately 300 tons of impacted soil has been disposed offsite thus far. Disposal activities will be completed prior to award of the Design-Build Contract.

Cobalt Impacted Soil

Based on historic sampling performed by JM Sorge, Inc. in 2003, cobalt concentrations were above the IGWSRS and present on-site in one location, identified as CEX-1 on Figure 1. Based on the results of post-excavation sampling, the cobalt impacted material area was excavated and disposed of offsite.

D. Backfill and Compaction

All excavations, including those voids remaining from the removal of impacted soils and concrete footers and slabs, have been backfilled with dense graded aggregate (DGA) supplied from Tilcon's Mount Hope, New Jersey Quarry. Prior to delivery to the Site, laboratory test results of the DGA stone fines samples from Mount Hope were submitted to LBG and were reviewed and approved per the *NJDEP Site Remediation Program for Fill Guidance at SRP Sites*, dated August 11, 2011. DGA analytical information is included in Appendix 4 of this report.

Tricon utilized a Caterpillar 257B Loader with a two (2) foot diameter roller attachment to compact the DGA in eight (8) inch lifts. Key Tech Laboratories was onsite during backfill and compaction to perform independent nuclear density testing to ensure a minimum 95% compaction. Compaction test results will be provided to the Design-Builder upon award of contract.

While a majority of the excavations were compacted and tested for minimum compaction requirements, excavation areas EX-1, EX-2, EX-7, EX-8, and EX-9 were not tested. Due to the accumulation of significant amounts of water in these open excavations, NJSDA approved Tricon to dewater these excavations and backfill without compaction testing. In lieu of eight (8) inch lifts, these areas were backfilled in several foot lifts and compacted with the roller. The areas that were not tested for compaction are identified in the map provided in Appendix 1 of this report.

II. EXISTING CONDITIONS

The following sections are included to provide a description of the site condition upon completion of the ESP. Current Site topography is depicted in Figure 3 of this report.

A. Concrete Perimeter Footer

Upon completion of the ESP, known site concrete and debris within the interior of the site has been removed and disposed of off-site. All excavations were backfilled to grades documented in the As-Built Survey using clean fill. However, several concrete foundations along the perimeter of the site remain intact. These foundations are listed below and are mapped in the As-Built Survey and Figure 3 of this report:

- Jefferson Ave. – The concrete retaining wall that runs the full length along Jefferson Ave. remains intact at the completion of the ESP. This wall varies in height from five (5) to nine (9) feet above site grade, meeting the existing sidewalk grade; Top of Wall (TW) and Bottom of Wall (BW) elevations are included in the As-Built Survey. The wall is approximately twenty four (24) inches wide and extends, at minimum, four (4) feet below grade.
- Summit Ave. – The concrete retaining wall that runs along the full length of Summit Ave. has not been removed under the ESP. The wall varies in height from two (2) to six (6) feet above site grade, meeting the existing sidewalk grade; TW and BW elevations are included in the As-Built Survey. The wall is approximately eighteen (18) inches wide and extends approximately two (2) feet below grade.
- Laidlaw Ave. – The concrete foundation along Laidlaw Ave. remains intact at the completion of the ESP. The foundation varies in height from at existing site grade, up to two (2) feet above grade; TW and BW elevations are included in the As-Built Survey. The foundation extends, at minimum, four (4) feet deep and approximately two (2) feet wide
- Eastern Property Line – The existing concrete block retaining wall along the eastern property line was not removed under the ESP. This wall varies in height from two (2) to six (6) feet above site grade, meeting the existing grades of the adjacent properties; TW and BW elevations are included in the As-Built Survey. The wall is approximately twelve (12) inches wide and extends, at minimum, four (4) feet below grade.

The Design-Builder will be responsible for any removals to facilitate construction at the site. While NJSDA has undertaken an intensive program to identify and remove site concrete (and subsurface structures and equipment remnant from historical site operations), it is noted that such remnant materials may be encountered during future activities.

B. Capped New Jersey Transit Vent Shaft

The entire Site overlays an existing New Jersey Transit Tunnel and abandoned ventilation shaft. The shaft was capped in 2001 with a concrete slab at grade and the entire shaft was filled with lean concrete backfill. Drawings of the tunnel and shaft, identified as the North Tunnel Shaft No. 4, are included within the Design-Build Information Package under the Existing Conditions section.

During ESP activities, the shaft was undisturbed and the adjacent concrete was hand excavated to ensure integrity of the cap. Furthermore, based on test pits and ESP excavations, it is noted that the extent of concrete capping surrounding the ventilation shaft is not entirely consistent with the reference drawings. Adjacent excavations revealed that the concrete cap has an amorphous shape that extends beyond the drawing limits.

The Design-Builder will be responsible for any removals or modifications to facilitate construction at the site. Additionally, the Design-Builder shall notify New Jersey Transit in advance of any modifications to coordinate and approve proposed measures.

C. Environmental

The impacted soils described in the previous section have been identified and disposed offsite. In addition, the Design-Builder is directed to the RAW provided to bidders for information regarding the contaminants that are present in the fill to remain on site.

Generally, based on the subsurface investigation activities completed during the Remedial Investigation (RI) and RAW, the existing site soil above bedrock has been documented to have exceedances of the NJDEP SRS for several PAHs and metals consistent with Historic Fill material. Aluminum and manganese were also detected at concentrations above the default Impact to Groundwater (IGW) soil screening levels, but these metals are considered secondary contaminants by the NJDEP. As a result, the IGW pathway for these contaminants does not need to be addressed. Additionally, soil samples collected to investigate the Historic Fill also identified PCBs at concentrations between 0.2 and 10 ppm in the soils underlying the site; reference Table 4 of the RAW for the full soil sampling analytical results.

The Design-Builder will be required to address the requirements of the RAW relative to the engineering controls, design/installation of the school vapor intrusion system, and management of Historic Fill materials on-site. Reference the Environmental Specifications Section of this report for further clarification.

D. Geotechnical

The Geotechnical Investigation Report (Geotech Report) for the Site was prepared by LBG in January, 2012 and is included in the Design-Builder's Information Package. Based on test

borings and test pit excavation activities performed in December, 2011, the following is a brief summary of the subsurface and groundwater conditions identified in the report.

Stratum 1 **Fill:** Prior to the ESP, the visible layer at the existing ground surface was concrete. Upon completion of the ESP, the existing surficial concrete was removed and the stratum is now a fill layer, comprised mostly of silt. In addition, the fill locally contains pieces of bricks and ash in small volumes.

Based on geotechnical borings and on-site observations, the majority of existing fill present on-site does not appear capable of serving as compactable fill material to support structures, pavement, or other fill areas that require compaction in controlled lifts. Further, it must be emphasized that the fill material has been characterized as "Historic Fill" and evidences compound concentrations that exceed the NJDEP's SRS. This fill material may also be impacted by residual petroleum associated with historic operations. These will be important factors to consider, since it may affect determinations relative to bidding strategy and will need to be addressed in the Design-Builder's Soil Management Plan, as required by the RAWP.

Stratum 2 **Silt (ML) and Clay (CL) – to a lesser extend Sand (SM):** This stratum is immediately below the fill and consists of brown to light brown to gray silt, with little medium to fine sand, trace to little gravel, and generally moist lean clay.

Stratum 3 **Diabase (bedrock):** The bed rock is below the silt at depths ranging from 1 foot to 17 feet below the existing grade. The bedrock is bluish gray, medium grained, and generally fractured.

Through completion of ESP construction activities, LBG's visual inspection and observations were consistent with the previously documented subsurface conditions. During excavation activities, bedrock was encountered at various depths, from less than a foot below grade at the middle of the site, to eight (8) to eleven (11) feet below grade at portions of the east and west sides of the site. Also, bedrock was not encountered at the far west or southeastern portions of the site because excavations were limited to eleven (11) feet. Furthermore, the bedrock elevations encountered confirmed the accuracy of the Bedrock Elevation Contour Map (Figure 5 of the Geotech Report) and Cross Sections (Figure 3 and 4 of the Geotech Report).

LBG notes that portions of the bedrock profile have been modified to accommodate historic building construction. Further, we note that the Design-Builder shall familiarize himself with the type and composition of bedrock to be encountered since it may affect determinations relative to bidding strategy.

Groundwater During initial boring activities on December 2011, groundwater was not observed within the limits of the site. However, since the bedrock is near the surface and both the bedrock and overlying silt layers have poor drainage characteristics, perched water due to the infiltration of surface runoff was locally identified.

During the ESP, Groundwater has also been consistent with the initial subsurface investigations; due to the poor drainage characteristics, perched water due to surface runoff was observed consistently in all excavations. Typically, the perched ground water was encountered approximately two (2) to three (3) feet below grade during excavation. In addition, excavations that were left open for long periods of time accumulated significant amounts of water due to the increase in precipitation during December 2012 through February 2013. These areas required dewatering activities prior to backfilling and compacting.

Based on a limited groundwater investigation performed during the RI to evaluate the potential Historic Fill impacts to groundwater, the presence of metals (lead, iron, and manganese) and PAHs at concentrations above the Ground Water Quality Standards (GWQS) were observed. Additionally, one sample had an exceedence of PCBs above GWQS. These factors may influence any dewatering activities that may necessarily be undertaken by the Design-Builder. The Design-Builder is directed to refer to the RAW for additional information relative to contaminants present in groundwater that prohibits its untreated release to storm sewers.

III. REMEDIAL ACTION UPDATE

This update supplements the RAW that was completed by LBG in March 2012 and provides a summary of the additional sampling and excavation activities that have been completed since the submittal of the RAW and those anticipated to occur prior to the implementation of the design-build stage. Full details regarding these activities will be included in the Remedial Action Report (RAR), which will be completed by LBG once the presumptive remedy engineering controls are installed through the construction process.

A. Soil Characterization

Since the completion of the RAW, the concrete footings and floor slabs throughout the Site have been excavated and disposed of offsite. Following the removal of all known footings and slabs, a geophysical survey was conducted to identify any additional subsurface objects or concrete. The anomalies identified through the geophysical survey were investigated through exploratory excavations.

Historic Fill

Although several PAH compounds (PAHs-benzo[a]pyrene, benzo[a]anthracene, benzo[b]fluoranthene, and dibenzo[a,h]anthracene) were detected at concentrations in excess of the NJDEP SRS, the concentrations are within the expected range for these constituents found in Historic Fill, which has been documented to be present at the Site and will be addressed under the pending institutional controls (i.e., deed notice) and via engineering controls.

The extent of the excavated areas and approximate locations of post-excavation samples are shown on Figure 1, located in Appendix 1 of this report. A summary of the analytical results received to date for the post-excavation samples is provided on Table 1, located in Appendix 2 of this report. The calculation sheets for the sample-specific criteria are provided in Appendix 2.

Petroleum Impacted Material

During the concrete removal and exploratory excavation activities, free-phase product was observed in a number of areas, primarily associated with historic subgrade process equipment, piping and structures. Representative samples were collected from the product in these areas for fingerprint analysis and the test results from all of the samples identified the observed product as hydraulic fluid. Hydraulic oil-impacted soil was excavated from eleven areas throughout the Site. The extent of each excavation was determined by screening excavated soil with a PID and by visual inspection. The excavation areas were backfilled with certified clean dense DGA. Post-excavation sidewall and base samples were collected to confirm that all of the impacted soil had been removed. Per the NJDEP's Protocol for Addressing Extractable Petroleum Hydrocarbons (Version 5.0; August 9, 2010) and Table 2-1 N.J.A.C. 7:26E-2.1, the post-excavation samples were analyzed for Extractable Petroleum Hydrocarbons (EPH) with a

contingent PAH analyses of 25% of the samples with EPH concentrations above 100 mg/kg. Samples with EPH concentrations above 1,700 mg/kg were analyzed using the fractionation option to determine the sample-specific health-based soil remediation standard using the NJDEP-provided EPH calculator. Based on the draft results that have been received to date, all total EPH results are below their respective calculated sample-specific criteria.

Mercury Impacted Material

Historic concentrations of mercury at two areas (MEX-1 and MEX-2), documented by JM Sorge, Inc. in 2003, were addressed through further delineation sampling and excavation.

- Soils in the area identified as MEX1 were excavated with sidewall and base post-excavation samples collected. One concentration of mercury exceeded criteria in the eastern sidewall sample (MEX1-1; 390 mg/kg). This concentration was subsequently delineated stepping out to the east where an additional sidewall sample (MEX1-5) was collected. The mercury concentration in sample MEX1-5 was below all applicable criteria and this additional material will be removed from the Site before the Design-Build contract Notice of Award is issued. The sampling results for this area are included on Table 2, included in Appendix 2 of this report, and the sample locations and the final excavated areas are shown on Figure 1, included in Appendix 1 of this report.
- To confirm the concentrations and determine the limits of excavation at MEX-2, LBG performed in-situ post-excavation sampling. The samples were analyzed for mercury with respect to the site-specific IGWSRS of 11 ppm. Delineation samples were collected in the vicinity of the former sample location BH-1 in an effort to delineate the impacted soil in this area prior to excavation. Based on the laboratory results, delineation to the site-specific impact to groundwater standard was achieved, the fourth side (to the north) is technically impractical to remove additional soils due to an existing retaining well (notched into bedrock in this area). The resulting delineated area of impacted soil has been excavated and stockpiled and will be removed from the Site before the Design-Build contract Notice of Award is issued.

Cobalt Impacted Material

A limited excavation was also completed to address a previous exceedance of the IGWSRS for cobalt. Following soil excavation in this area, post-excavation sidewall and base samples were collected and analyzed for cobalt. As cobalt was not detected in excess of the IGWSRS in any of the samples, no further investigation was required for this area. Excavated material from this area was disposed of off-site. Analytical results are included in Appendix 2, and the sample locations and the final excavated area are shown in Appendix 1.

B. Groundwater Sampling and Characterization

As a result of elevated PCB concentrations being detected in groundwater samples collected during previous investigations, filtered and unfiltered groundwater samples will be collected via

hydro punch and analyzed for PCBs (as detailed in the RAW). In addition, based on the observation of hydraulic oil in the soil underlying the site, one hydro punch sample will also be collected and analyzed for volatile organic compounds and base neutral compounds to assess if there has been any impact to the groundwater. LBG expects to conduct groundwater sampling in early March 2013 following the completion of early site preparation construction activities. Pending the results of these sampling activities, the establishment of a classified exception area (CEA) may be required. If the establishment of a CEA is required, this process will not impact upcoming construction activities.

IV. ENVIRONMENTAL SPECIFICATIONS

This project will be completed under the NJDEP's LSRP program which was established as part of the Site Remediation Reform Act (SRRA), P.L 2009 c.60 (May 2009) which sets regulatory and mandatory timeframes for addressing contamination at sites. The interim rule for the SRRA statute, the Administrative Requirements for the Remediation of Contaminated Sites (ARRCS) Rule, N.J.A.C. 7:26C became effective on November 4, 2009. In addition, the project will be performed in accordance with the Technical Requirements for Site Remediation, N.J.A.C. 7:26E (November 2009).

The NJDEP's LSRP from LBG will act as the regulator on this project. The LSRP or the LSRP's agent is responsible for overseeing the remedial action conducted at the site. The LSRP will review and approve the plans and specifications developed by the Design-Builder within the context of the NJDEP regulations and guidance documents. During construction, the LSRP or the LSRP's agent will audit and document the performance of the Design-Builder. The LSRP is responsible for confirming that the work being implemented by the Design-Builder is consistent with the plans and specifications and other submittals. Should the work not be consistent with project requirements, the LSRP will notify the Design-Builder, the construction management firm, and the NJSDA immediately, so that issues can be resolved to the LSRP's satisfaction.

The Design-Builder shall provide the LSRP with a remedial action memorandum on a monthly basis throughout the period of construction. The monthly memorandum shall provide a detailed summary of work completed the previous month and work anticipated the following month. Additionally, the Design-Builder shall notify the LSRP immediately upon discovery of potentially contaminated soil or groundwater. The LSRP will utilize this documentation to prepare the Remedial Action Report at the completion of construction, as well to finalize the Deed Notice for the site and to prepare a Response Action Outcome. Use of institutional and engineering controls at the site will necessitate that a Remedial Action Permit for soils be obtained by the LSRP for the property.

A. Design-Builder Submittals

Specific design requirements must be satisfied by the Design-Builder in association with the implementation of the remedial action on the this project, in compliance with NJDEP regulations and guidance including, but not limited to, N.J.A.C. 7:26C, N.J.A.C. 7:26E, the *Historic Fill Material and Diffuse Anthropogenic Pollutants Technical Guidance*, and the *Presumptive and Alternative Remedy Technical Guidance*. The Design-Builder shall prepare and submit the following documents inclusive of the design requirements:

- Health and Safety Plan
- Soil Management Plan
- Plans and Specifications
- Quality Assurance and Quality Control Plan

Health and Safety Plan:

The work described in this RAW shall be performed under the provisions of a site-specific Health and Safety Plan (HASP). The Design-Builder shall develop the HASP for the overall project, including the activities involving the handling of contaminated materials. The Design-Builder's HASP shall be prepared based on the requirements of 29 CFR 1926 (Construction Standard), 29 CFR 1910.120 (General Industry Standard), and the NJSDA Safety Manual. The Design-Builder shall prepare the HASP prior to construction and submit it to the NJSDA for review and comment.

The NJSDA will review the HASP and provide comments to the Design-Builder for finalization of the document.

Soil Management Plan:

The Design-Builder shall prepare a Soil Management Plan (SMP) describing the methods and procedures for handling and managing the contaminated soil (Historic Fill and petroleum impacted material) at the site. The SMP shall cover the excavation, on-site temporary storage, reuse, characterization, transportation, and off-site disposal of the regulated Historic Fill and petroleum impacted material, which is considered non-hazardous ID-27 material as confirmed by previous testing results, and management of non-regulated material. The SMP shall provide information on the prospective transporter(s) and disposal facility(ies), including NJDEP license and permit numbers, as applicable, insurance information, and the waste characterization requirements and acceptance criteria of the disposal facility(ies).

The SMP will also stipulate that any materials imported to the Site during construction activities must be certified clean fill as defined in the TRSR (N.J.A.C. 7:26E) and as described in NJDEP's most current *Alternative and Clean Fill Guidance for SRP Sites* (last updated December 29, 2011). Unless an alternative sampling program is approved by the NJSDA and deemed acceptable to the LSRP, all imported material shall be analyzed for EPH, Target Contaminant List (TCL), volatile organic compounds (VOCs), TCL Semi-volatile organic compounds (SVOCs), TCL pesticides and PCBs, Target Analyte List (TAL) metals, and cyanide. A library search for tentatively identified compounds (TICs) shall be included with the VOC and SVOC analysis (e.g. VOC+15, SVOC+25). The Design-Builder shall submit laboratory test data for the proposed imported fill and/or topsoil at a frequency as defined in NJDEP's most current Alternative and Clean Fill Guidance for SRP Sites. Further, the Design-Builder shall provide sufficient analysis of the data to affirm that the laboratory analytical results confirm that the material is appropriate for use consistent with project specifications and NJDEP's most current Alternative and Clean Fill Guidance for SRP sites.

Plans and Specifications:

The Design-Builder shall develop plans and specifications associated with the removal and management of the regulated material (contaminated soil/Historic Fill) at the site. In addition, the plans and specifications shall provide details and information associated with the implementation of the presumptive remedies (engineering controls) proposed for the site, the extent and scope of which is defined in this document.

Quality Assurance and Quality Control Plan:

The work detailed in this document and the RAW shall be conducted under the provisions of a Quality Assurance and Quality Control (QAQC) Plan. The Design-Builder shall develop the QAQC Plan for the overall project, including the activities involving the handling, characterization, and management of contaminated materials. The QAQC Plan shall address all aspects of the remedial action including waste characterization sampling and testing requirements, documentation and record keeping requirements, field instrument and calibration requirements, and so forth. The QAQC Plan shall address all aspects of the previously discussed submittals and the appropriate level of documentation for the implementation of each.

B. Soil Presumptive Remedy

The presumptive remedies for limiting human and ecological contact with Historic Fill and impacted soils that will remain on the site are institutional and engineering controls. The presumptive remedy shall be implemented in accordance with the NJDEP Site Remediation Program *Presumptive and Alternative Remedy Technical Guidance*, Dated July 2011 (or latest version). The engineering controls shall be designed to meet the requirements as listed below and defined in Table 5.1 of the Presumptive Remedy Guidance Document. Engineering controls shall include the following elements:

- **Barrier (Physical) layer** is either a durable surface material or a certified clean fill layer that prevents direct human contact to the contaminated material(s).
- **Buffer layer** consists of a separate additional certified clean fill layer of another specified thickness that provides added protection from exposure in the event of breaches of the physical barrier. The buffer layer is placed immediately below the barrier with no space in between the layers.
- **Visible demarcation** such as a visible contamination boundary marker (e.g., orange plastic snow fence) or geotextile fabric, that provides a visible warning to those conducting intrusive activities. The purpose of the visible demarcation is to serve notification of the vertical limit of the engineering control and beginning of the contaminated zone. The geotextile fabric may limit upward contaminant migration and provides a better physical barrier to the contamination below compared to the orange plastic snow fencing.

- **Inspection, monitoring and maintenance requirements** of a deed notice and remedial action permit provide a mechanism for protection of public health and for disruption/restoration procedures to support the long term effectiveness of the remedy.

The engineering controls for the site are subject to LSRP approval. The options below are minimum requirements. Engineering control description for development locations anticipated at Jersey City ES#3 include:

Location	Remedial Action (Engineering Controls Requirement)
1) Play Areas: Loose Fill Surface (e.g., mulch, sand, etc.)	Restricted Use Barrier - Minimum of one foot clean loose fill material; Buffer - Minimum of one foot clean loose fill material; Demarcation - Geotextile fabric; and Inspection – Quarterly
1) Play Areas: Unitary Material Surface (e.g., Tike, Rubber Mat, Artificial Turf)	Restricted Use Barrier – Proposed surface of unitary material and a minimum of six (6) inches crushed stone; Buffer – Minimum of six (6) inches crushed stone; Demarcation – Geotextile fabric; and Inspection – Annual
1) Play Areas: Other Unpaved Playing Surfaces (e.g., athletic fields)	Restricted Use Barrier – Vegetative cover with a minimum of one foot clean fill material; Buffer - Minimum of one foot clean fill material; Demarcation - Geotextile fabric; and Inspection – Annual
2) Concrete or Asphalt Surfaces (e.g., Driveways, Roadways, Parking, Walkways, Bicycle paths, etc.)	Restricted Use Barrier – Minimum of four (4) inches of concrete or asphalt; Buffer – Minimum of four (4) inches of sub base; Demarcation – Visible contamination boundary (i.e. orange snow fence or Geotextile fabric); and Inspection – Annual
3) Building Footprint (New Construction)	Restricted Use Option #1. Barrier – Minimum of four (4) inches of concrete; Buffer – Minimum of four (4) inches of sub base; Demarcation – Visible contamination boundary (i.e. orange snow fence or Geotextile fabric); and Inspection – Annual
4) Vegetative Cover (e.g., Lawn Areas)	Barrier – A vegetative cover and a minimum of six (6) inches of certified clean fill; Buffer – Minimum of six (6) inches of certified clean fill; Demarcation – Visible contamination boundary (i.e. orange snow fence or Geotextile fabric); and Inspection – Semi-Annual
5) Landscaped Areas	Restricted Use Option #1. Barrier – Minimum of one (1) foot certified clean fill; Buffer – Minimum of one (1) foot certified clean fill; * Demarcation - Geotextile fabric; and Inspection – Semi-Annual *Tree and/or shrub can be planted within barrier and/or buffer layer(s), but

	must maintain a minimum of one (1) foot certified clean fill on all sides and below the extent of planted root ball of larger plant materials. Demarcation layer must always be below Buffer layer.
6) Maintenance Areas/Dumpsters and Compactor Pad/Other Areas Restricted to Workers	Restricted Use Barrier – Minimum of four (4) inches of concrete or asphalt; Buffer – Minimum of four (4) inches of sub base; Demarcation – Visible contamination boundary (i.e. orange snow fence or Geotextile fabric); and Inspection – Annual
7) Underground Utility Corridors	Piping & Conduits placed in Trenches: Barrier – Clean fill from surface down to utility (minimum of one (1) foot); Buffer – Minimum of one (1) foot of clean fill below and around the sides of the utility; Demarcation – Visible contamination boundary marker along the bottom and sides of the trench (i.e. orange snow fence or Geotextile fabric); and Inspection – Annual

Execution

Prior to construction, the Design-Builder shall provide plans and specifications indicating how the engineering controls in each location, including for underground utilities, will be constructed. The plans shall include at a minimum; a plan view showing the location of each engineering control type and proposed activity use of location, details for each type of engineering control proposed, specifications that document the materials to be used, and quality control measures to ensure that the engineering controls is constructed to satisfy the intended use. During construction, the Design-Builder shall document the installation of the engineering controls in all areas. Upon construction completion, the Design-Builder shall provide as-built documents that show how the engineering controls was constructed in each area and include a table that includes Activity Use Location, Engineering controls Description, and Inspection Frequency.

C. Vapor Intrusion Mitigation System

A sub-slab Vapor Intrusion (VI) mitigation system shall be designed and installed by the Design-Builder as part of the proposed new NJSDA school building construction at the Site. The purpose of the proposed system is to protect the building and future occupants against potential exposure to VOCs through potential VI from the subsurface, although such a potential has not been identified. The proposed system will be installed as an additional safeguard, should subsurface conditions change in the future.

The proposed mitigation system shall consist of a Passive Sub-Slab Depressurization System (SSDS) within a porous aggregate layer overlain by a well sealed, smoke-tested, spray-applied or composite Gas Vapor Barrier (GVB) of minimum 60-mil thickness, and shall be suitable for conversion to an Active SSDS, in the event that becomes necessary. This is consistent with the NJDEP "*Technical Requirements for Site Remediation*" outlined under N.J.A.C. 7:26E-5.3(a)2, and the NJDEP "*Presumptive and Alternate Remedy Technical Guidance*", Ver. 1.0 dated

07/22/2011, for all new constructions where schools are planned on sites where remediation was initiated on or after May 7, 2010.

The section below outline "minimum" design, construction, verification, and long-term operation, maintenance, and monitoring requirements for the vapor barrier and Passive SSDS that must be met by the Design-Builder selected by NJSDA. These requirements are based on the NJDEP "*Vapor Intrusion Technical Guidance*" (VITG), Version 3.1, dated March 2013, and applicable project-specific considerations.

Mitigation System Design and Construction Requirements

As noted above, the Mitigation System shall consist of Passive SSDS within a porous aggregate layer overlain by a well sealed and smoke-tested GVB, and shall be suitable for conversion to an Active SSDS. The Passive SSDS shall be installed immediately below, and shall be completed prior to, the construction of the concrete slab. The following minimum system components, design and construction requirements shall be met:

Porous Aggregate Layer

- The Passive SSDS components shall be installed within a minimum of six (6) inches of a porous aggregate layer of ¾-inch clean stone (NJDOT No. 57 or equivalent), with at least 1 inch of stone on either side of any embedded system components (e.g. vent pipes, etc.);
- The stone material shall be free of any sharp edges and any deleterious material that may puncture and/or compromise the integrity of the GVB;
- The GVB shall be installed directly above the porous aggregate layer and the embedded Passive SSDS components, beneath the concrete floor and seal to the building foundations.

Passive SSDS Construction

- The embedded passive venting system shall be consistent with the NJDEP VITG, the NJSDA's Model Schools Program's: "Materials and Systems Standards Manual" and "Construction Details Manual" and may be integrated with the building's radon control system;
- The embedded venting system shall be connected to several riser pipes extending through the roof from within the interior of the building, and connected to roof-top wind-driven rotary turbine fans;
- A minimum of at least four (4) sub-slab soil-gas vapor probes, evenly distributed throughout the building floor area, must be installed and embedded within the porous aggregate layer, extending through the overlying GVB, completed flush with the new concrete floor surface, and accessible from the building interior for future collection of sub-slab soil-gas samples. The probes must be designed to be leak-proof, and sized for connecting an adapter with barb fitting suitable for a ¼-inch diameter Teflon sampling tube;

- The Passive SSDS shall be capable of: providing a sustained pressure differential (vacuum) of at least 0.001 inches of water across the entire area of the slab subsurface; air movement throughout the porous aggregate layer; and cumulative ventilation of at least four (4) pore volumes of air per hour within the six (6) inch thick porous aggregate layer;
- The Passive SSDS must be suitable for conversion to an Active SSDS, in the event that becomes necessary, with the ability to achieve a sustained pressure differential (vacuum) of at least 0.004 inches of water (1 Pascal) across the slab;
- The Passive SSDS must be designed to ensure that condensate does not collect in any of the piping or system components, thereby either restricting or decreasing the vacuum response in the system, damaging the system components, or decreasing the operational lifetime of the system.

Gas Vapor Barrier (GVB) Installation

- The GVB material shall consist of either the spray-applied liquid gas vapor barrier Liquid Boot® by CETCO, or spray-applied TREMproof® 260 (TP260) by Tremco, Inc. or composite barrier Geo-Seal® (which includes a spray-applied component) by Land Science Technologies, a division of REGENSIS, Inc., or functional equivalent, as approved by the engineer and the LSRP;
- The GVB material shall be installed by a Certified Applicator authorized by the material manufacturer;
- Selected Certified Applicator must document similar experience with at least three (3) projects;
- The GVB shall consist of a spray-applied asphaltic barrier component of a minimum thickness of 60-mil;
- The GVB shall be installed with a minimum 12 inches of applicable material overlap at the seams (e.g. underlying geotextile for the spray-applied barrier), and in accordance with manufacturer recommended and project Engineer approved procedures for proper seals around all floor penetrations (e.g. utility pipes and vent lines, etc.), and proper seal at all edges of the foundation walls or footings;
- A smoke test must be performed for all portions of the GVB in accordance with industry standard practices and procedures to determine if any leaks developed during and after the installation of the GVB;
- A QA/QC Plan shall be part of the GVB installation and shall include inspections by an NJSDA and LSRP approved representative, to ensure there are no holes or tears in the GVB, and to ensure the installation of proper material and/or thickness, proper sealing around all floor penetrations, and acceptable smoke test results.

Post-Mitigation System Requirements

- No sooner than 30 days after the Passive SSSDS installation (including roof-top wind-driven rotary turbine fans), the system must be commissioned to verify that it is

functioning consistent with the approved design and requirements outlined above, and to establish an operational baseline;

- As part of the system commissioning, a visual inspection of the system must be completed including the completion of the "*Vapor Intrusion Mitigation System Inspection Checklist*" included as Appendix M in the NJDEP VITG dated January 2012;
- As part of the system commissioning, baseline measurements of sub-slab vacuum at all sub-slab soil-gas sampling probes, vacuum and air flow measurements at all vent riser pipes must be established under passive operation;
- Any problems identified during the system commissioning (e.g. noise, vibration, condensate generation, etc.) must be addressed through appropriate alteration, augmentation or trouble shooting of the system;

Operation, Maintenance, and Monitoring (OMM) Requirements

To verify the continued proper operation of the Mitigation System, an OMM program must be implemented, and consist of inspections and diagnostic measurements from the system. The OMM inspection frequencies and sampling designs must be as per the guidelines provided in NJDEP VITG (January 2012), Table 6-2, as summarized below:

- First Year OMM
    1. Quarterly system inspection;
- Second Year OMM
    1. Semi-annual inspection of the system;
- Third Year and Beyond OMM:
    1. Annual inspection of the system;

The Design-Builder will be responsible for First Year OMM or until Certificate of Occupancy is achieved, whichever is longer.

General and Permit Requirements

- The GVB and Passive SSDS must be designed and installed in coordination with other site work as part of the proposed building construction, and in compliance with applicable mechanical, electrical, building, plumbing, energy, and fire prevention codes, standards, and regulations of the local jurisdiction, including need for any local permit, and inspection/approval of the system by local officials;
- An Air Pollution Control (APC) Permit from the NJDEP Air Quality Permitting Program (AQPP) is assumed to be not required for this Passive SSDS based on the anticipated de-minimis emissions of regulated compounds below applicable thresholds as per N.J.A.C. 7:27-8.2(c)2. In the event that an APC Permit is deemed necessary, obtaining and maintaining the Permit will be the responsibility of the NJSDA.

APPENDIX 1
Figures

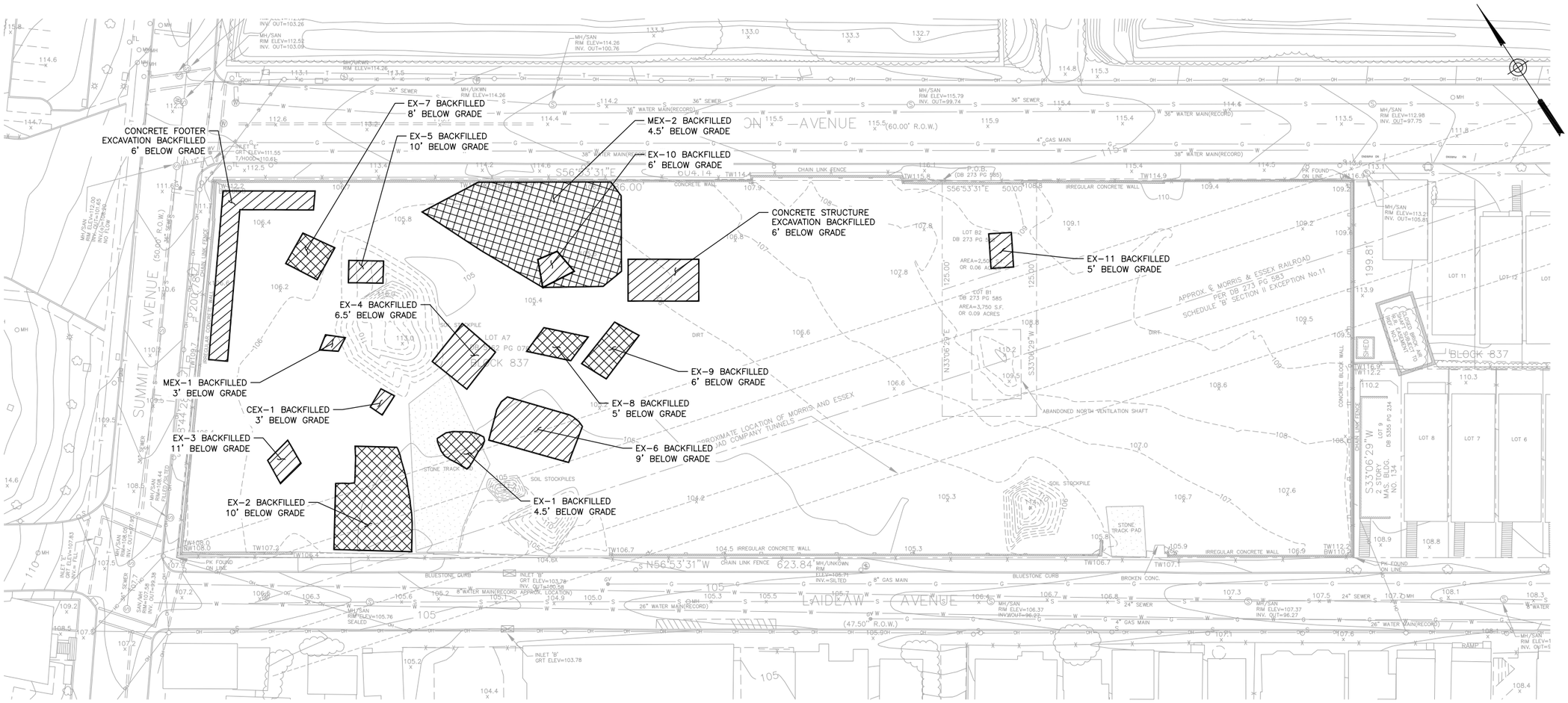
SDA
NJ Schools Development Authority

IMPACTED SOIL EXCAVATION AREAS AND POST-EXCAVATION SAMPLE LOCATION MAP

NEW ELEMENTARY SCHOOL #3, JERSEY CITY, NJ

The Louis Berger Group, Inc.
412 Mt Kemble Ave
Morristown, NJ

FIGURE 1



NOTE

1. TRICON BACKFILLED ALL SOIL EXCAVATION AREAS UTILIZING DENSE GRADED AGGREGATE.
2. EXCAVATION AREAS IDENTIFIED AS BEING BACKFILLED AND COMPACTED WERE INDEPENDENTLY TESTED TO ENSURE 95% COMPACTION AT 8" LIFTS.
3. EXCAVATION AREAS IDENTIFIED AS BEING BACKFILLED ONLY WERE COMPACTED IN SEVERAL FOOT LIFTS BUT NOT INDEPENDENTLY TESTED FOR COMPACTION.
4. IN ADDITION TO THE BACKFILLED EXCAVATION AREAS SHOWN, THE SITE WAS GRADED UTILIZING DENSE GRADED AGGREGATE TO MEET THE PROPOSED POST ESP GRADING PLAN. THE DEPTH OF THE IMPORTED BACKFILL VARIED FROM 1' TO 3' ABOVE GRADE. THE FINAL GRADING WAS COMPACTED IN VARYING DEPTH LIFTS BUT WAS NOT TESTED FOR 95% COMPACTION.
5. BACKGROUND SURVEY REPRESENTS THE SITE CONDITIONS AS OF MARCH 22, 2013. FOR FURTHER DETAIL, REFERENCE FIGURE 3 OF THIS REPORT AND THE EARLY SITE PACKAGE AS-BUILT SURVEY INCLUDED IN THE DESIGN-BUILD INFORMATION PACKAGE.

LEGEND

BACKFILLED AND COMPACTED (TRICON 2012-2013)

BACKFILLED (TRICON 2012-2013)

0 30 45 60 90

1 inch = 30 ft.

SCHOOLS DEVELOPMENT AUTHORITY

STATE OF NEW JERSEY

THE Louis Berger Group INC.
412 Mount Kemble Ave,
Morristown, N.J. 07962

NJ Certificate of Authorization No. 24GA27933700

NEW ELEMENTARY SCHOOL #3
EARLY SITE PACKAGE

DOE PROJECT NO. 2390-X23-01-0597
NJSDA CONTRACT No. JE-0021-N01

JERSEY CITY PUBLIC SCHOOLS
HUDSON COUNTY

No.	REVISION	DATE

DATE: 3/21/2013

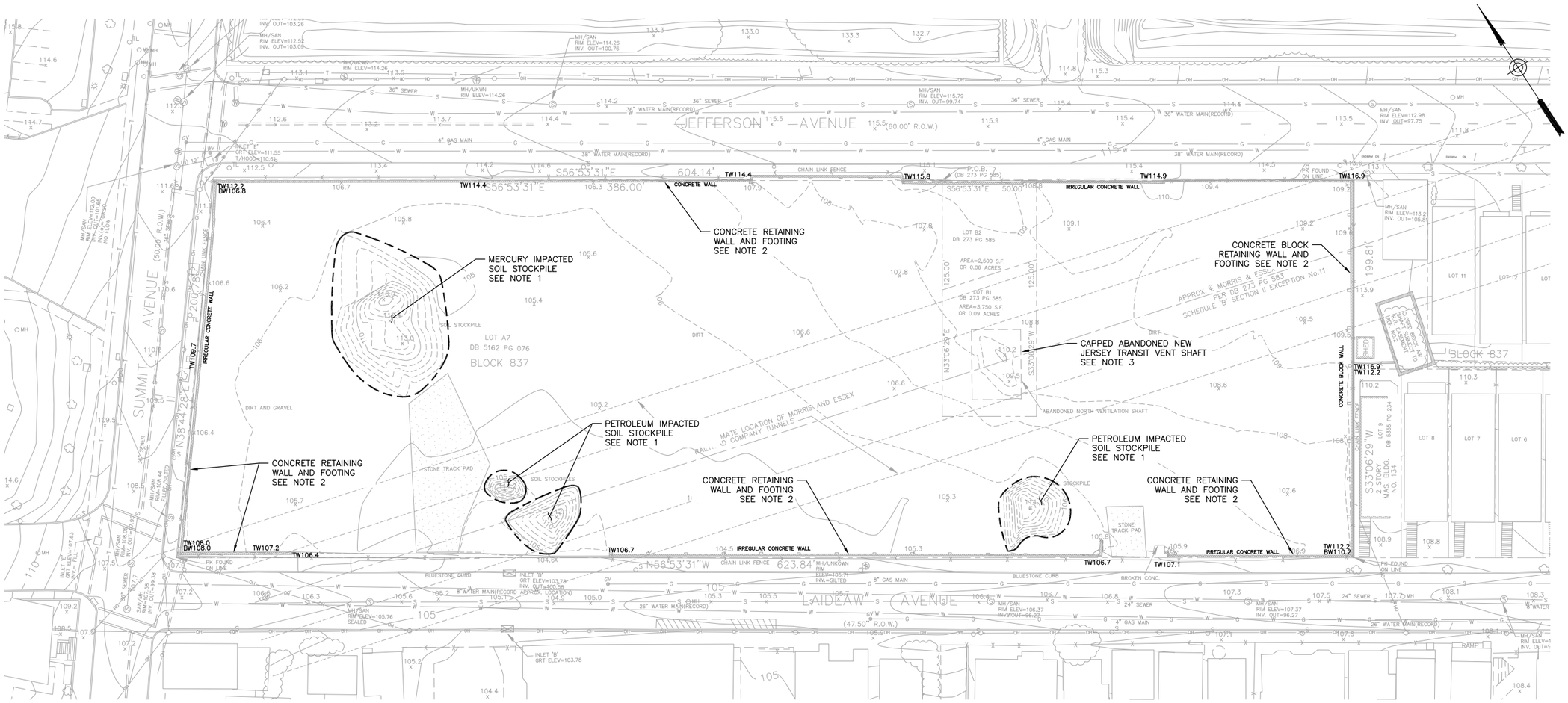
DRAWING TITLE

BACKFILLED AREAS

DRAWING No

FIGURE 2

DWG. NO. OF



NOTE

1. SOIL STOCKPILES ARE SHOWN AS OF MARCH 22, 2013. THESE STOCKPILES WILL BE DISPOSED OF OFFSITE BY THE EARLY SITE CONTRACTOR PRIOR TO THE AWARD OF THE DESIGN–BUILD CONTRACTOR. UPON COMPLETION OF OFFSITE DISPOSAL, THE EARLY SITE PACKAGE CONTRACTOR WILL RESTORE THE AREA BENEATH THE STOCKPILES TO MATCH ADJACENT GRADE. REFERENCE SECTIONS I.C OF THE POST DEMOLITION SITE CONDITION REPORT FOR ADDITIONAL INFORMATION.
2. UPON COMPLETION OF THE EARLY SITE PACKAGE, PERIMETER FOUNDATIONS AND FOOTINGS ARE STILL INTACT. THESE STRUCTURES HAVE BEEN IDENTIFIED ON THIS PLAN AND ADDITIONALLY DESCRIBED IN SECTION II.A OF THE POST DEMOLITION SITE CONDITION REPORT. TOP OF WALL (TW) AND BOTTOM OF WALL (BW) ELEVATIONS ARE HIGHLIGHTED ON THIS PLAN TO PROVIDE A BASIS FOR APPROXIMATE WALL HEIGHTS ABOVE GRADE.
3. THE SITE OVERLAYS AN EXISTING NEW JERSEY TRANSIT TUNNEL AND ABANDONED VENTILATION SHAFT, AS SHOWN ON THE PLAN. THE SHAFT IS CAPPED WITH A CONCRETE SLAB AT GRADE AND THE ENTIRE SHAFT WAS FILLED WITH LEAN CONCRETE BACKFILL. REFERENCE SECTION II.B OF THE POST DEMOLITION REPORT, AS WELL AS THE AS–BUILT DRAWINGS INCLUDED WITHIN THE DESIGN–BUILD INFORMATION PACKAGE.
4. THE EARLY SITE PACKAGE AS–BUILT SURVEY, AS PREPARED BY MAITRA ASSOCIATES, PC IS THE BASIS OF THIS DRAWING AND IS INCLUDED IN THE DESIGN–BUILD INFORMATION PACKAGE.

LEGEND

EXISTING SOIL STOCKPILES (SEE NOTE 1)	
TOP OF WALL	TW
BOTTOM OF WALL	BW

0 30 45 60 90

1 inch = 30 ft.

SCHOOLS DEVELOPMENT AUTHORITY

STATE OF NEW JERSEY

THE Louis Berger Group INC.
412 Mount Kemble Ave.
Morristown, N.J. 07962

NJ Certificate of Authorization No. 24GA27933700

NEW ELEMENTARY SCHOOL #3
EARLY SITE PACKAGE

DOE PROJECT NO. 2390-X23-01-0597
NJSDA CONTRACT No. JE-0021-N01

JERSEY CITY PUBLIC SCHOOLS
HUDSON COUNTY

No.	REVISION	DATE

DATE: 3/21/2013

DRAWING TITLE

EARLY SITE PACKAGE AS-BUILT

DRAWING No

FIGURE 3

DWG. NO. OF

APPENDIX 2
Tables

Table 1
NJSDA Jersey City ES #3
Jersey City, New Jersey
Post-Excavation Sampling Analytical Results - EPH

			Location ID	EX1			EX2								
			Sample ID	EX1-1	EX1-2	EX1-3	EX2-1	EX2-2	EX2-3	EX2-4	EX2-5	EX2-6	EX2-7	EX2-B1	EX2-B2
			Lab ID	AC70338-001	AC70338-002	AC70338-003	AC70379-001	AC70379-002	AC70379-003	AC70379-004	AC70379-005	AC70379-006	AC70379-007	AC70379-008	AC70379-009
			Sample Date	1/21/2013	1/21/2013	1/21/2013	1/22/2013	1/22/2013	1/23/2013	1/23/2013	1/23/2013	1/23/2013	1/23/2013	1/22/2013	1/23/2013
			Sample Interval (ft, bgs)	4.0 - 4.5	4.0 - 4.5	4.0 - 4.5	9.5 - 10.0	9.5 - 10.0	9.5 - 10.0	9.5 - 10.0	9.5 - 10.0	9.5 - 10.0	9.5 - 10.0	10.0 - 10.5	10.0 - 10.5
			Sample-Specific SRC	8900	-	-	6300	7500	-	-	7400	-	5600	-	-
EPH	PAH Analyses Trigger	Fractionation Trigger	Residual Product/Free Product Limit												
EPH Category 2	200	1700	17000	**2600**	**200**	**1200**	**2300**	**2800**	**140**	73 U	**5500**	**800**	**8400**	72 U	69 U
EPH Fractionation															
C9-C12 Aliphatics	NC	NC	NC	37 U	-	-	34 U	34 U	-	-	42 U	-	130 U	-	-
C12-C16 Aliphatics	NC	NC	NC	37 U	-	-	34 U	34 U	-	-	**430.8169**	-	130 U	-	-
C16-C21 Aliphatics	NC	NC	NC	**137.9654**	-	-	**180.1591**	**188.0864**	-	-	**3310.783**	-	**620.6206**	-	-
C21-C40 Aliphatics	NC	NC	NC	**1332.279**	-	-	**802.9478**	**933.3205**	-	-	130 U	-	**2949.688**	-	-
C10-C12 Aromatics	NC	NC	NC	37 U	-	-	34 U	34 U	-	-	130 U	-	44 U	-	-
C12-C16 Aromatics	NC	NC	NC	37 U	-	-	34 U	34 U	-	-	42 U	-	44 U	-	-
C16-C21 Aromatics	NC	NC	NC	**76.42223**	-	-	**89.31136**	**86.1841**	-	-	**188.3634**	-	**377.3911**	-	-
C21-C36 Aromatics	NC	NC	NC	**251.2494**	-	-	**260.7046**	**225.0705**	-	-	**733.7211**	-	**1134.632**	-	-
Total EPH	NC	NC	NC	**1797.91603**	-	-	**1333.12286**	**1432.6615**	-	-	**4663.6844**	-	**5082.3317**	-	-

Notes:

- All results are dry weight and are reported in parts per million (mg/kg)

- SRC = Soil Remediation Criteria

- NRDCSRS = Non Residential Direct Contact Soil Remediation Standards, NJDEP, May 7, 2012

- RDCSRS = Residential Direct Contact Soil Remediation Standards, NJDEP, May 7, 2012

- IGWSRS = Default Impact to Ground Water Soil Remediation Standard is from the NJDEP's "Soil-Water Partition Equation Guidance Document" dated June 2008 (revised May 7, 2012)

- NC = No Criteria

- U = Not detected above the quantitation limit; the value presented is the sample quantitation limit

- Bolded values indicate positive detections

- Bolded and Shaded values trigger PAH contingent analyses (25% of triggering samples analyzed)

- Bolded and Shaded values trigger PAH contingent analyses and EPH fractionation

- Total EPH is compared to Sample Specific SRC

Table 1
NJSDA Jersey City ES #3
Jersey City, New Jersey
Post-Excavation Sampling Analytical Results - EPH

			Location ID	EX3					EX4					EX5				
			Sample ID	EX3-1	EX3-2	EX3-3	EX3-4	EX3-B1	EX4-1	EX4-2	EX4-3	EX4-4	EX4-B1	EX5-1	EX5-2	EX5-3	EX5-4	EX5-B1
			Lab ID	AC70416-002	AC70416-003	AC70416-004	AC70416-005	AC70416-001	AC70501-002	AC70501-003	AC70501-004	AC70501-005	AC70501-001	AC70501-007	AC70501-008	AC70501-009	AC70501-010	AC70501-006
			Sample Date	1/25/2013	1/25/2013	1/25/2013	1/25/2013	1/25/2013	1/30/2013	1/30/2013	1/30/2013	1/30/2013	1/30/2013	1/30/2013	1/30/2013	1/30/2013	1/30/2013	1/30/2013
			Sample Interval (ft, bgs)	10.5 - 11.0	10.5 - 11.0	10.5 - 11.0	10.5 - 11.0	11.0 - 11.5	6.0 - 6.5	6.0 - 6.5	6.0 - 6.5	6.0 - 6.5	6.5 - 7.0	9.5 - 10.0	9.5 - 10.0	9.5 - 10.0	9.5 - 10.0	10.0 - 10.5
			Sample-Specific SRC	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
EPH	PAH Analyses Trigger	Fractionation Trigger	Residual Product/Free Product Limit															
EPH Category 2	200	1700	17000	**300**	**11000**	**750**	**240**	**88**	67 U	**420**	**83**	**1800**	**150**	**790**	**390**	**2300**	**3400**	**78**
EPH Fractionation																		
C9-C12 Aliphatics	NC	NC	NC	-	-	-	-	-	-	-	-	ND	-	-	-	ND	ND	-
C12-C16 Aliphatics	NC	NC	NC	-	-	-	-	-	-	-	-	ND	-	-	-	ND	ND	-
C16-C21 Aliphatics	NC	NC	NC	-	-	-	-	-	-	-	-	**127.6171**	-	-	-	**334.5663**	**384.054**	-
C21-C40 Aliphatics	NC	NC	NC	-	-	-	-	-	-	-	-	**600.7537**	-	-	-	**1741.542**	**2042.76**	-
C10-C12 Aromatics	NC	NC	NC	-	-	-	-	-	-	-	-	ND	-	-	-	ND	ND	-
C12-C16 Aromatics	NC	NC	NC	-	-	-	-	-	-	-	-	ND	-	-	-	ND	ND	-
C16-C21 Aromatics	NC	NC	NC	-	-	-	-	-	-	-	-	**71.86829**	-	-	-	**47.13258**	**51.60225**	-
C21-C36 Aromatics	NC	NC	NC	-	-	-	-	-	-	-	-	**221.8829**	-	-	-	**199.1281**	**222.773**	-
Total EPH	NC	NC	NC	-	-	-	-	-	-	-	-	**1022.12199**	-	-	-	**2322.36898**	**2701.18925**	-

Notes:

- All results are dry weight and are reported in parts per million (mg/kg)

- SRC = Soil Remediation Criteria

- NRDCSRS = Non Residential Direct Contact Soil Remediation Standards, NJDEP, May 7, 2012

- RDCSRS = Residential Direct Contact Soil Remediation Standards, NJDEP, May 7, 2012

- IGWSRS = Default Impact to Ground Water Soil Remediation Standard is from the NJDEP's "Soil-Water Partition Equation Guidance Document" dated June 2008 (revised May 7, 2012)

- NC = No Criteria

- U = Not detected above the quantitation limit; the value presented is the sample quantitation limit

- Bolded values indicate positive detections

- Bolded and Shaded values trigger PAH contingent analyses (25% of triggering samples analyzed)

- Bolded and Shaded values trigger PAH contingent analyses and EPH fractionation

- Total EPH is compared to Sample Specific SRC

Table 1
NJSDA Jersey City ES #3
Jersey City, New Jersey
Post-Excavation Sampling Analytical Results - EPH

			Location ID	EX6							EX7				
			Sample ID	EX6-1	EX6-2	EX6-3	EX6-4	EX6-5	EX6-B1	EX6-B2	EX7-1	EX7-2	EX7-3	EX7-4	EX7-B1
			Lab ID	AC70557-002	AC70557-003	AC70557-004	AC70557-005	AC70557-007	AC70557-001	AC70557-006	AC70557-009	AC70557-010	AC70557-011	AC70557-012	AC70557-008
			Sample Date	2/1/2013	2/1/2013	2/1/2013	2/1/2013	2/1/2013	2/1/2013	2/1/2013	2/2/2013	2/2/2013	2/2/2013	2/2/2013	2/2/2013
			Sample Interval (ft, bgs)	8.5 - 9.0	8.5 - 9.0	8.5 - 9.0	8.5 - 9.0	8.5 - 9.0	9.0 - 9.5	9.0 - 9.5	7.5 - 8.0	7.5 - 8.0	7.5 - 8.0	7.5 - 8.0	8.0 - 8.5
			Sample-Specific SRC	-	-	-	-	-	-	-	-	-	-	-	-
EPH	PAH Analyses Trigger	Fractionation Trigger	Residual Product/Free Product Limit												
EPH Category 2	200	1700	17000	69 U	67 U	**410**	**200**	**79**	67 U	**530**	69 U	68 U	69 U	71 U	**260**
EPH Fractionation															
C9-C12 Aliphatics	NC	NC	NC	-	-	-	-	-	-	-	-	-	-	-	-
C12-C16 Aliphatics	NC	NC	NC	-	-	-	-	-	-	-	-	-	-	-	-
C16-C21 Aliphatics	NC	NC	NC	-	-	-	-	-	-	-	-	-	-	-	-
C21-C40 Aliphatics	NC	NC	NC	-	-	-	-	-	-	-	-	-	-	-	-
C10-C12 Aromatics	NC	NC	NC	-	-	-	-	-	-	-	-	-	-	-	-
C12-C16 Aromatics	NC	NC	NC	-	-	-	-	-	-	-	-	-	-	-	-
C16-C21 Aromatics	NC	NC	NC	-	-	-	-	-	-	-	-	-	-	-	-
C21-C36 Aromatics	NC	NC	NC	-	-	-	-	-	-	-	-	-	-	-	-
Total EPH	NC	NC	NC	-	-	-	-	-	-	-	-	-	-	-	-

Notes:

- All results are dry weight and are reported in parts per million (mg/kg)

- SRC = Soil Remediation Criteria

- NRDCSRS = Non Residential Direct Contact Soil Remediation Standards, NJDEP, May 7, 2012

- RDCSRS = Residential Direct Contact Soil Remediation Standards, NJDEP, May 7, 2012

- IGWSRS = Default Impact to Ground Water Soil Remediation Standard is from the NJDEP's "Soil-Water Partition Equation Guidance Document" dated June 2008 (revised May 7, 2012)

- NC = No Criteria

- U = Not detected above the quantitation limit; the value presented is the sample quantitation limit

- Bolded values indicate positive detections

- Bolded and Shaded values trigger PAH contingent analyses (25% of triggering samples analyzed)

- Bolded and Shaded values trigger PAH contingent analyses and EPH fractionation

- Total EPH is compared to Sample Specific SRC

Table 1
NJSDA Jersey City ES #3
Jersey City, New Jersey
Post-Excavation Sampling Analytical Results - EPH

			Location ID	EX8					EX9				EX10				
			Sample ID	EX8-1	EX8-2	EX8-3	EX8-4	EX8-B1	EX9-1	EX9-2	EX9-3	EX9-4	EX10-1	EX10-2	EX10-3	EX10-4	EX10-B1
			Lab ID	AC70557-014	AC70557-015	AC70557-016	AC70557-017	AC70557-013	AC70557-018	AC70557-019	AC70557-020	AC70557-021	AC70717-002	AC70717-003	AC70717-004	AC70717-005	AC70717-001
			Sample Date	2/2/2013	2/2/2013	2/2/2013	2/2/2013	2/2/2013	2/4/2013	2/4/2013	2/4/2013	2/4/2013	2/13/2013	2/13/2013	2/13/2013	2/13/2013	2/13/2013
			Sample Interval (ft, bgs)	4.5 - 5.0	4.5 - 5.0	4.5 - 5.0	4.5 - 5.0	5.0 - 5.5	5.5 - 6.0	5.5 - 6.0	5.5 - 6.0	5.5 - 6.0	5.5 - 6.0	5.5 - 6.0	5.5 - 6.0	5.5 - 6.0	6.0 - 6.5
			Sample-Specific SRC	-	-	-	-	-	-	-	-	-	-	-	-	-	-
EPH	PAH Analyses Trigger	Fractionation Trigger	Residual Product/Free Product Limit														
EPH Category 2	200	1700	17000	69 U	70 U	69 U	67 U	**75**	70 U	**270**	**470**	71 U	**800**	**1200**	**2000**	**11000**	**2600**
EPH Fractionation																	
C9-C12 Aliphatics	NC	NC	NC	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C12-C16 Aliphatics	NC	NC	NC	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C16-C21 Aliphatics	NC	NC	NC	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C21-C40 Aliphatics	NC	NC	NC	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C10-C12 Aromatics	NC	NC	NC	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C12-C16 Aromatics	NC	NC	NC	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C16-C21 Aromatics	NC	NC	NC	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C21-C36 Aromatics	NC	NC	NC	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total EPH	NC	NC	NC	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Notes:

- All results are dry weight and are reported in parts per million (mg/kg)

- SRC = Soil Remediation Criteria

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- RDCSRS = Residential Direct Contact Soil Remediation Standards, NJDEP, May 7, 2012

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- U = Not detected above the quantitation limit; the value presented is the sample quantitation limit

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- Bolded and Shaded values trigger PAH contingent analyses (25% of triggering samples analyzed)

- Bolded and Shaded values trigger PAH contingent analyses and EPH fractionation

- Total EPH is compared to Sample Specific SRC

Table 1
NJSDA Jersey City ES #3
Jersey City, New Jersey
Post-Excavation Sampling Analytical Results - PAHs

			Location ID	EX1		EX2			EX4	EX5	EX6		EX7	EX9	
			Sample ID	EX1-1	EX1-3	EX2-2	EX2-5	EX2-7	EX4-4	EX5-4	EX6-3	EX6-B2	EX7-B1	EX9-2	EX9-3
			Lab ID	AC70338-001	AC70338-003	AC70379-002	AC70379-005	AC70379-007	AC70501-005	AC70501-010	AC70557-004	AC70557-006	AC70557-008	AC70557-019	AC70557-020
			Sample Date	1/21/2013	1/21/2013	1/22/2013	1/23/2013	1/23/2013	1/30/2013	1/30/2013	2/1/2013	2/1/2013	2/2/2013	2/4/2013	2/4/2013
			Sample Interval (ft, bgs)	4.0 - 4.5	4.0 - 4.5	9.5 - 10.0	9.5 - 10.0	9.5 - 10.0	6.0 - 6.5	9.5 - 10.0	8.5 - 9.0	9.0 - 9.5	8.0 - 8.5	5.5 - 6.0	5.5 - 6.0
PAHs	**NRDCSRS**	**RDCSRS**	**IGWSRS**												
2-Methylnaphthalene	2400	230	5	0.041 U	0.044 U	0.038 U	**0.045**	0.15 U	0.12 U	0.11 U	0.04 U	0.047 U	0.038 U	0.041 U	0.041 U
Acenaphthene	37000	3400	74	0.041 U	0.044 U	0.038 U	**0.75**	**0.65**	0.12 U	0.11 U	0.04 U	0.047 U	0.038 U	**0.06**	**0.061**
Acenaphthylene	300000	NC	NC	0.041 U	0.044 U	0.038 U	**0.97**	0.15 U	0.12 U	0.11 U	0.04 U	0.047 U	0.038 U	0.041 U	0.041 U
Anthracene	30000	17000	NC	0.041 U	0.044 U	0.038 U	0.047 U	**0.65**	0.12 U	0.11 U	**0.08**	0.047 U	0.038 U	**0.094**	**0.13**
Benzo[a]anthracene	2	0.6	NC	0.041 U	**0.14**	0.038 U	**0.087**	**1.6**	**0.37**	0.11 U	**0.2**	0.047 U	0.038 U	**0.3**	**0.44**
Benzo[a]pyrene	0.2	0.2	NC	0.041 U	**0.2**	0.038 U	**0.079**	**1.1**	**0.39**	0.11 U	**0.15**	0.047 U	0.038 U	**0.26**	**0.4**
Benzo[b]fluoranthene	2	0.6	NC	0.041 U	**0.2**	0.038 U	**0.21**	**1.5**	**0.53**	0.11 U	**0.18**	0.047 U	0.038 U	**0.35**	**0.53**
Benzo[g,h,i]perylene	30000	380000	NC	0.041 U	**0.17**	0.038 U	**0.76**	**0.68**	**0.3**	0.028 U	**0.098**	0.047 U	0.038 U	**0.21**	**0.3**
Benzo[k]fluoranthene	23	6	NC	0.041 U	**0.089**	0.038 U	**0.71**	**0.59**	**0.18**	0.11 U	**0.075**	0.047 U	0.038 U	**0.13**	**0.17**
Chrysene	230	62	NC	**0.047**	**0.17**	0.038 U	**1.1**	**1.4**	**0.42**	0.11 U	**0.18**	0.047 U	0.038 U	**0.27**	**0.37**
Dibenzo[a,h]anthracene	0.2	0.2	NC	0.041 U	**0.045**	0.038 U	**0.17**	**0.21**	0.12 U	0.11 U	0.04 U	0.047 U	0.038 U	**0.059**	**0.083**
Fluoranthene	24000	2300	NC	**0.043**	**0.2**	0.038 U	**0.32**	**2.8**	**0.69**	**0.13**	**0.4**	0.047 U	0.038 U	**0.52**	**0.65**
Fluorene	24000	2300	110	**0.052**	0.044 U	0.038 U	**0.8**	**0.39**	0.12 U	0.11 U	0.04 U	0.047 U	0.038 U	**0.044**	**0.049**
Indeno[1,2,3-cd]pyrene	2	0.6	NC	0.041 U	**0.12**	0.038 U	**0.065**	**0.55**	**0.25**	0.11 U	**0.091**	0.047 U	0.038 U	**0.17**	**0.26**
Naphthalene	17	6	16	0.01 U	0.011 U	0.0095 U	**1.7**	**0.13**	0.03 U	0.028 U	0.0099 U	0.047 U	0.038 U	**0.041**	0.01 U
Phenanthrene	300000	NC	NC	0.041 U	**0.11**	**0.067**	**0.086**	**2.7**	**0.44**	0.11 U	**0.33**	0.047 U	0.038 U	**0.44**	**0.44**
Pyrene	18000	1700	NC	**0.053**	**0.32**	**0.055**	**0.18**	**3.5**	**0.69**	**0.15**	**0.38**	0.047 U	0.038 U	**0.64**	**0.78**

Notes:
- PAH = Polycyclic aromatic hydrocarbons
- All results are dry weight and are reported in parts per million (mg/kg)
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- IGWSRS = Default Impact to Ground Water Soil Remediation Standard is from the NJDEP's "Soil-Water Partition Equation Guidance Document" dated June 2008 (revised May 7, 2012)
- NC = No Criteria
- U = Not detected above the quantitation limit; the value presented is the sample quantitation limit
- Bolded values indicate positive detections
- Bolded and Shaded meets or exceeds one of SRS

Table 2
NJSDA Jersey City ES #3
Jersey City, New Jersey
Post-Excavation Sampling Analytical Results - Metals

Location ID				CEX1					MEX1						SBHG 01		SBHG 02A		SBHG 03	SBHG 04A		SBHG 05
Sample ID				CEX1-1	CEX1-2	CEX1-3	CEX1-4	CEX1-B1	MEX1-1	MEX1-2	MEX1-3	MEX1-4	MEX1-5	MEX1-B1	SBHG 01A	SBHG 01B	SBHG 02A	SBHG 02B	SBHG 03A	SBHG 04A	SBHG 04B	SBHG 05
Lab ID				AC70638-006	AC70638-007	AC70638-008	AC70638-009	AC70638-010	AC70638-001	AC70638-002	AC70638-003	AC70638-004	AC70795-001	AC70638-005	AC70697-001	AC70697-002	AC70697-003	AC70697-004	AC70697-005	AC70697-007	AC70697-008	AC70697-009
Sample Date				2/7/2013	2/7/2013	2/7/2013	2/7/2013	2/7/2013	2/7/2013	2/7/2013	2/7/2013	2/7/2013	2/20/2013	2/7/2013	2/13/2013	2/13/2013	2/13/2013	2/13/2013	2/13/2013	2/13/2013	2/13/2013	2/13/2013
Sample Interval (ft, bgs)				2.5 - 3.0	2.5 - 3.0	2.5 - 3.0	2.5 - 3.0	3.0 - 3.5	2.5 - 3.0	2.5 - 3.0	2.5 - 3.0	2.5 - 3.0	2.5-3.0	3.0 - 3.5	3.0 - 3.5	4.5 - 5.0	3.0 - 3.5	4.5 - 5.0	3.0 - 3.5	3.0 - 3.5	4.5 - 5.0	2.0 - 2.5
Metals	**NRDCSRS**	**RDCSRS**	**IGWSRS**																			
Cobalt	590	1600	59	**21**	**7.1**	**7.6**	**7**	**6.6**	-	-	-	-		-	-	-	-	-	-	-	-	-
Mercury	65	23	11*	-	-	-	-	-	**390**	**5.3**	**5.4**	**4.9**	**1.5**	0.099 U	**39**	0.093 U	**16**	0.094 U	0.12 U	**12**	0.094 U	**85**

Notes:

- All results are dry weight and are reported in parts per million (mg/kg)

-* Site-specific criterion developed based on Synthetic Precipitation Leaching Procedure (SPLP) results, RAW Appendix G

- NRDCSRS = Non Residential Direct Contact Soil Remediation Standards, NJDEP, May 7, 2012

- RDCSRS = Residential Direct Contact Soil Remediation Standards, NJDEP, May 7, 2012

- IGWSRS = Default Impact to Ground Water Soil Remediation Standard is from the NJDEP's "Soil-Water Partition Equation Guidance Document" dated June 2008 (revised May 7, 2012)

- U = Not detected above the quantitation limit; the value presented is the sample quantitation limit

- Bolded values indicate positive detections

- Bolded and Shaded meets or exceeds one of SRS

Table 2
NJSDA Jersey City ES #3
Jersey City, New Jersey
Post-Excavation Sampling Analytical Results - Metals

			Location ID	SBHG 06	SBHG 07	SBHG 08	SBHG 09	SBHG 10	SBHG 11	SBHG 12	SBHG 17	SBHG 18	SBHG 23	SBHG 24	SBHG25	SBHG26	SBHG27	SBHG28	SBHG 29
			Sample ID	SBHG 06	SBHG 07	SBHG 08	SBHG 09	SBHG 10	SBHG 11	SBHG 12	SBHG 17	SBHG 18	SBHG 23	SBHG 24	SBHG25	SBHG26	SBHG27	SBHG28	SBHG 29
			Lab ID	AC70697-010	AC70697-011	AC70697-012	AC70697-013	AC70697-014	AC70697-015	AC70697-016	AC70697-019	AC70697-020	AC70697-023	AC70697-024	AC70758-001	AC70758-002	AC70758-003	AC70758-004	AC70795-004
			Sample Date	2/13/2013	2/13/2013	2/13/2013	2/13/2013	2/13/2013	2/13/2013	2/13/2013	2/13/2013	2/13/2013	2/13/2013	2/13/2013	2/15/2013	2/15/2013	2/15/2013	2/15/2013	2/20/2013
			Sample Interval (ft, bgs)	2.0 - 2.5	2.0 - 2.5	2.0 - 2.5	2.0 - 2.5	2.0 - 2.5	2.0 - 2.5	2.0 - 2.5	2.0 - 2.5	2.0 - 2.5	2.0 - 2.5	2.0 - 2.5	2.0 - 2.5	2.0 - 2.5	2.0 - 2.5	4.5 -5.0	2.0 - 2.5
Metals	**NRDCSRS**	**RDCSRS**	**IGWSRS**																
Cobalt	590	1600	59	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mercury	65	23	11*	**55**	**8.1**	**0.91**	**0.35**	0.1 U	**59**	**87**	**19**	**40**	**6.4**	**84**	**150**	**220**	**1100**	**1.7**	**4**

Notes:

- All results are dry weight and are reported in parts per million (mg/kg)

-* Site-specific criterion developed based on Synthetic Precipitation Leaching Procedure (SPLP) results, RAW Appendix G

- NRDCSRS = Non Residential Direct Contact Soil Remediation Standards, NJDEP, May 7, 2012

- RDCSRS = Residential Direct Contact Soil Remediation Standards, NJDEP, May 7, 2012

- IGWSRS = Default Impact to Ground Water Soil Remediation Standard is from the NJDEP's "Soil-Water Partition Equation Guidance Document" dated June 2008 (revised May 7, 2012)

- U = Not detected above the quantitation limit; the value presented is the sample quantitation limit

- Bolded values indicate positive detections

- Bolded and Shaded meets or exceeds one of SRS

COMPOSITION-SPECIFIC EXTRACTABLE PETROLEUM HYDROCARBON (EPH) SOIL REMEDIATION CRITERION (SRC) CALCULATOR FOR NON-#2 FUEL OIL/DIESEL OIL PETROLEUM HYDRCARBON MIXTURES (Version 2.0, August 9, 2010)

DATA ENTRY CELLS

ENTER ALL CONCENTRATIONS AS MILLIGRAMS/KILOGRAM (mg/kg)
FOR NON DETECT VALUES, ENTER "0" or "ND" (without the quotation marks)
REMEMBER TO ENTER ACTUAL SAMPLE IDENTIFICATION IN PLACE OF "SAMPLE 1", ETC.
REMEMBER TO INDICATE WHETHER THE SAMPLE IS "RESIDENTIAL" (R) OR "NON-RESIDENTIAL" (N) [OR USE DROP-DOWN LIST]
ALL DATA MUST BE ENTERED FOR EACH SAMPLE FOR THE EPH CRITERION TO BE CALCULATED
CLICK ON THE "CALCULATE EPH SRC" BUTTON TO CALCULATE THE SAMPLE-SPECIFIC EPH SOIL REMEDIATION CRITERION
IF YOU CHANGE ANY INPUT DATA, YOU MUST CLICK ON "CALCULATE EPH SRC" AGAIN TO RECALCULATE THE SOIL REMEDIATION CRITERION
IF THE RESULTS FROM THE GC ANALYSIS INDICATE AN EPH CONCENTRATION LESS THAN 1,700 mg/kg, IT IS NOT NECESSARY TO USE THIS CALCULATOR

EC* RANGE / SAMPLE ID		EX1-1	EX2-1	EX2-2	EX2-5	EX2-7
Enter Residential or Non-Residential		Residential	Residential	Residential	Residential	Residential
ALIPHATICS	EC9-EC12	0.0	0.0	0.0	0.0	0.0
	EC12-EC16	0.0	0.0	0.0	430.8	0.0
	EC16-EC21	138.0	180.2	188.1	3,310.8	620.6
	EC21-EC40	1,332.3	802.9	933.3	0.0	2,949.7
AROMATICS	EC10-EC12	0.0	0.0	0.0	0.0	0.0
	EC12-EC16	0.0	0.0	0.0	0.0	0.0
	EC16-EC21	76.4	89.3	86.2	188.4	377.4
	EC21-EC36	251.2	260.7	225.1	733.7	1,134.6
Total Concentration (mg/kg)		**1,797.9**	**1,333.1**	**1,432.7**	**4,663.7**	**5,082.3**

Calculated EPH SRC# (mg/kg)	**8,900**	**6,300**	**7,500**	**7,400**	**5,600**
Allowable% EPH SRC (mg/kg)	**8,900**	**6,300**	**7,500**	**7,400**	**5,600**
ABOVE/BELOW ALLOWABLE EPH SRC (i.e., PASS or FAIL)	BELOW (PASS)	BELOW (PASS)	BELOW (PASS)	BELOW (PASS)	BELOW (PASS)

* = Equivalent Carbon
\# = Soil Remediation Criterion
% = Accounts for residual product
17,000^ = Default maximum value for all non-#2 fuel oil/diesel oil petroleum hydrocarbon mixtures

Calculate EPH SRC | Print Results | Intro Message

Reset Data | Instructions

Run Date = 02/20/2013

COMPOSITION-SPECIFIC EXTRACTABLE PETROLEUM HYDROCARBON (EPH) SOIL REMEDIATION CRITERION (SRC) CALCULATOR FOR NON-#2 FUEL OIL/DIESEL OIL PETROLEUM HYDRCARBON MIXTURES (Version 2.0, August 9, 2010)

DATA ENTRY CELLS

ENTER ALL CONCENTRATIONS AS MILLIGRAMS/KILOGRAM (mg/kg)
FOR NON DETECT VALUES, ENTER "0" or "ND" (without the quotation marks)
REMEMBER TO ENTER ACTUAL SAMPLE IDENTIFICATION IN PLACE OF "SAMPLE 1", ETC.
REMEMBER TO INDICATE WHETHER THE SAMPLE IS "RESIDENTIAL" (R) OR "NON-RESIDENTIAL" (N) [OR USE DROP-DOWN LIST]
ALL DATA MUST BE ENTERED FOR EACH SAMPLE FOR THE EPH CRITERION TO BE CALCULATED
CLICK ON THE "CALCULATE EPH SRC" BUTTON TO CALCULATE THE SAMPLE-SPECIFIC EPH SOIL REMEDIATION CRITERION
IF YOU CHANGE ANY INPUT DATA, YOU MUST CLICK ON "CALCULATE EPH SRC" AGAIN TO RECALCULATE THE SOIL REMEDIATION CRITERION
IF THE RESULTS FROM THE GC ANALYSIS INDICATE AN EPH CONCENTRATION LESS THAN 1,700 mg/kg, IT IS NOT NECESSARY TO USE THIS CALCULATOR

EC* RANGE / SAMPLE ID		EX4-4	EX5-3	EX5-4	ENTER SAMPLEID	ENTER SAMPLEID
Enter Residential or Non-Residential		Residential	Residential	Residential		
ALIPHATICS	EC9-EC12	ND	ND	ND		
	EC12-EC16	ND	ND	ND		
	EC16-EC21	127.6	334.6	384.1		
	EC21-EC40	600.8	1,741.5	2,042.8		
AROMATICS	EC10-EC12	ND	ND	ND		
	EC12-EC16	ND	ND	ND		
	EC16-EC21	71.9	47.1	51.6		
	EC21-EC36	221.9	199.1	222.8		
Total Concentration (mg/kg)		1,022.1	2,322.4	2,701.2		
Calculated EPH SRC# (mg/kg)		5,800	15,000	15,000		
Allowable% EPH SRC (mg/kg)		5,800	15,000	15,000		
ABOVE/BELOW ALLOWABLE EPH SRC (i.e., PASS or FAIL)		BELOW (PASS)	BELOW (PASS)	BELOW (PASS)		

* = Equivalent Carbon
\# = Soil Remediation Criterion
% = Accounts for residual product
5,100^ = Default value for residential #2 Fuel Oil/Diesel
8,000^ = Default maximum value for #2 Fuel Oil/Diesel
17,000^ = Default maximum value for all other petroleum hydrocarbon mixtures

Calculate EPH SRC

Instructions

Run Date = 05/25/2010

APPENDIX 3
Disposal Facility Acceptance Letters

DURABLE
RECYCLING LLC

November 28, 2012

Tricon Enterprises, Inc.
322 Beers St
Keyport, New Jersey 07735
Attn: Scott Rubin

Re: Concrete Disposal – PS3 - Laidlaw / Jefferson & Summit Ave, Jersey City, NJ Project

Please be advised that our class B recycling center is approved to receive concrete, brick, cinder block, tile, non-chemically treated wood waste.

I am writing this letter to confirm that based on MID Atlantic Environmental Laboratories, Inc analytical report for job number 37998 in addition to the NJSDA Jersey City ECC and ES 003 Concrete Sampling Analytical Results Durable Recycling LLC can accept concrete from the above referenced project. The proposed concrete with analytical results meets NJ Residential Clean Standards.

If you should have any comments or questions please, don't hesitate to contact me.

Sincerely,

Rocco D'Ozzollinni
Cell: 201-852-0040
BDC
cc:file

◊

85 East 2nd Street Bayonne, NJ 07002 Office: (201) 437-0703 Fax: (201) 437-0158

DURABLE
RECYCLING LLC

December 17, 2012

Tricon Enterprises, Inc.
322 Beers St
Keyport, New Jersey 07735
Attn: Scott Rubin

Re: Mixed Aggregate Disposal – PS3 - Laidlaw / Jefferson & Summit Ave, Jersey City, NJ Project

Please be advised that our class B recycling center is approved to receive concrete, brick, cinder block, tile, non-chemically treated wood waste.

I am writing this letter to confirm that based on MID Atlantic Environmental Laboratories, Inc analytical report Dated 11-20-12 for job number 37998, lab sample ID # 37998-7 client sample ID: A1 and lab sample ID # 37998, lab sample ID # 37998-8, client ID: A2, in addition to the NJSDA Jersey City ECC and ES 003 Concrete Sampling Table 1 Analytical Results Durable Recycling LLC can accept mixed aggregate (concrete, brick, rock, cinder block) from the above referenced project. Based on this information the proposed mixed aggregate with analytical results meets NJ Residential Clean Standards.

If you should have any comments or questions please, don't hesitate to contact me.

Sincerely,

Rocco D'Ozzollinni
Cell: 201-852-0040
BDC
cc:file

◊

85 East 2nd Street Bayonne, NJ 07002 Office: (201) 437-0703 Fax: (201) 437-0158

Cumberland
COUNTY
IMPROVEMENT
Authority

January 28, 2013

Deborah Staas-Haught
Samboney Enterprises, Inc.

RE: Landfill Daily Cover Soil
NJSDA Jersey City, NJ

Dear Deborah:

Based on the results of the petroleum and mercury impacted soil analysis performed by Mid-Atlantic Environmental Laboratories Inc. (Petroleum Sample # 38291 and Mercury Sample # 38346-1 and2). I have determined that this petroleum and mercury impacted soil meets the criteria for non-hazardous I.D. 27 soil and is acceptable for use as daily cover at the Cumberland County Solid Waste Complex. Accordingly the soil may be delivered to the Cumberland County Solid Waste Complex for use as daily cover.

Per our various discussions, sampling and analysis is to be conducted at the rate of one per 1,000 tons of soil. This letter is granting approval for approx. ***6,000 tons***. The results of the additional sampling are to be submitted as soon as possible.

All trucks transporting the above referenced soil to the Cumberland County Solid Waste Complex must be A-901 registered vehicles, must have towing hooks both front and rear and must be properly tarped.

Each truck delivering soil from the above referenced site must present a copy of the attached form signed by me to the weigh-master upon arrival at the Cumberland County Solid Waste Complex along with Samboney Enterprises Inc.'s "Shipping Documents". **Trucks not presenting a copy of this form to the scale house will be denied admittance to the facility.**

All trucks transporting the above referenced soil must be weighed at the Cumberland County Solid Waste Complex and will then be directed either to the working face of the landfill or to the soil stockpile area where the load will be tipped.

Delivery of the soil to the Cumberland County Solid Waste Complex may begin on Tuesday, January 29, 2013 contingent upon the submission of a list of the A-901 license numbers of the trucks (if different those already on file with us) that will be used to transport the soil.

Please call Mr. Robert Pollock or Mr. Craig Truitt at (856) 825-3700 regarding any rescheduling of the delivery of the soil to the landfill

January 28, 2013
Deborah Staas-Haught

Page Two

Very Truly Yours,

James B. Rocco
Engineer

cc: Donald Rainear, Management Consultant
Robert Pollock, Facility Manager
Craig Truitt, Assistant Facility Manager
Scale Personnel
Accounts Receivable

APPENDIX 4
Dense Graded Aggregate Analytical Data

S & S ENVIRONMENTAL SCIENCES, INC.

Environmental Engineering, Testing and Consultation

98 Sand Park Road, Cedar Grove, NJ 07009
Tel (973) 857-7188 Fax (973) 239-8380

Kamil Sor, Ph.D.
Yilmaz Arhan, Ph.D.
Orhun Sor, P.E.
Peter G. Micklus, P.E.
Kenneth J. Rowbotham, P.E.

June 8, 2012
Report No. 12-E-188

Tilcon New York Inc.
625 Mount Hope Road
Wharton, NJ 07885

Re: Mount Hope Rock Quarry, New Jersey

As requested, I visited the referenced quarry site on June 7, 2012. The purpose of my site visit was to visually check the area of the quarry where granite rock is being surface mined from an undisturbed geologic formation. The rock which is mined at this location is blasted, transported to the on-site crushing operation, and then processed into various sized aggregates including ¾ inch stone which is sold to various customers. The stone is virgin material, and no chemicals and/or additives are added to the product.

A Site Review was conducted in accordance with the New Jersey Department of Environmental Protection (NJDEP) Site Remediation Program Fill Guidance at SRP Sites dated August 11, 2011.

TILCON has owned and operated the rock quarry since 2001. The area of the quarry site was also used for mining iron, beginning around 1710, and the Mount Hope iron mines operated for over 250 years. The area of the quarry where virgin rock is being surface mined has never been used for any other industrial or commercial purposes.

Based on my site visit of June 7, 2012, information provided by Tilcon New York, Inc. (TILCON) with respect to their ownership and use of the site, and according to the preliminary investigation regarding site development and use history, the rock which is being obtained from this quarry has not been located on or impacted by any contaminant sources.

If there are any questions or should you require additional information, please do not hesitate to contact me.

Very truly yours,

S & S ENVIRONMENTAL SCIENCES, INC.

Yilmaz Arhan, Ph.D.
Vice President

YA/ya

S & S ENVIRONMENTAL SCIENCES, INC.

Environmental Engineering, Testing and Consultation

98 Sand Park Road, Cedar Grove, NJ 07009
Tel (973) 857-7188 Fax (973) 239-8380

Kamil Sor, Ph.D.
Yilmaz Arhan, Ph.D.
Orhun Sor, P.E.
Peter G. Micklus, P.E.
Kenneth J. Rowbotham, P.E.

Client:	TILCON New York, Inc.				
Project:	Mount Hope, New Jersey				
Subject:	Laboratory Analysis of Stone Fines				
Job No.:	07-E-34	**Report Number:**	12-E-283	**Date:**	09-11-2012

We present herewith the laboratory test results of the stone fines sample received on August 24, 2012. The sample was collected at Mount Hope Quarry by a representative of TILCON on August 24, 2012.

As requested, the sample was analyzed for the U.S. EPA Target Compound List (TCL)+30/Target Analyte List (TAL) parameters, Extractable Petroleum Hydrocarbons (EPH), pH, and Hexavalent Chromium. The analyses were performed by Integrated Analytical Laboratories, LLC (IAL) (NJDEP Lab ID No. 14751).

The test results are summarized in Table Nos. 1 through 4. A copy of the IAL sample chain-of-custody form and a copy of the preliminary faxed IAL laboratory summary report are attached.

Based on the laboratory data, the sample meets all of the NJDEP Residential Direct Contact Soil Remediation Standards/Clean Fill Criteria.

If there are any questions or if we can be of further assistance in this matter please call us.

Very truly yours,

S & S ENVIRONMENTAL SCIENCES, INC.

Yilmaz Arhan, Ph.D.
Vice President

YA/ya

Attachments: (1) IAL Laboratory Summary Report and Sample Chain-of-Custody Form
(2) NJDEP Residential Soil Remediation Standards List

cc: (1) Client (Attn: Mr. Steve O'Reilly and Mr. Gino Labbate)

TABLE 1 - SUMMARY OF LABORATORY TEST RESULTS

PARAMETERS	SAMPLE #12-169-7 RESULT		NJDEP SOIL REMEDIATION STANDARD(*)	
Organic Compounds				
Volatile Organic Compounds	Not Detected (See Table 2)		See Attached List	
Semi-Volatile Organics	Not Detected (See Table 3)		See Attached List	
Pesticides	Not Detected (See Table 4)		See Attached List	
PCBs	Not Detected (See Table 4)		Total 0.20	
Metals:		1Gw		
Aluminum	1,950	3,900	78,000	
Antimony	ND (<0.282)		31	
Arsenic	0.420 J		19	
Barium	16.1	1,300	16,000	
Beryllium	0.239 J	0.5	16	
Cadmium	ND (<0.141)		78	
Calcium	3,010	NA	NA	
Chromium	3.24	NA	120,000	
Cobalt	2. 34	59	1,600	
Copper	9.79	730D	3,100	
Iron	11,600	NA	NA	
Lead	0.388 J	59	400	
Magnesium	1,430	NA	NA	
Manganese	88.5	42	11,000	→ Secondary consideration (aesthetic only) OK
Mercury	ND (<0.00656)		23	
Nickel	ND (<0.563)		1,600	
Potassium	695	NA	NA	
Selenium	ND (<1.13)		390	
Silver	ND (<0.141)		390	
Sodium	122	NA	NA	
Thallium	ND (<0.141)		5	
Vanadium	3.34	NA	78	
Zinc	7.26	600	23,000	
Others				
Extractable Petroleum Hydrocarbons (EPH) (C9-C40)	ND (<9.41)		1,000	
Cyanide	ND (<0.732)		1,600	
Hexavalent Chromium	ND (<0.247)		1(**)	
pH, SU	8.10		NA	

Results are in mg/kg (milligrams per kilogram) unless otherwise specified.
(*) NJDEP's most stringent "Residential Direct Contact Soil Remediation Standards"
(**)The hexavalent chromium standard is a site-specific requirement
TICs – Tentatively Identified Compounds
ND: Not Detected < - Indicates less than (the value reported is the Method Detection Limit)
J – The concentration was detected at a value below the Reporting Limit and above the Method Detection Limit

TABLE 2 - TEST RESULTS FOR VOLATILE ORGANIC COMPOUNDS

SAMPLING DATE:	08-24-2012 (Client)	SAMPLE MATRIX: Stone Fines
PARAMETER	**SAMPLE #12-169-7 RESULT**	**NJDEP SOIL REMEDIATION STANDARD(*)**
1,1-Dichloroethane	ND	8
1,1,1-Trichloroethane	ND	290
1,1,2,2-Tetrachloroethane	ND	1
1,1,2-Trichloroethane	ND	2
1,1-Dichloroethene	ND	11
1,2-Dichloroethene	ND	230
1,2-Dichloropropane	ND	2
1,3-Dichloropropene (cis and trans)	ND	2
1,2-Dichloroethane	ND	0.9
2-Butanone (MEK)	ND	3100
4-Methyl-2-Pentanone (MIBK)	ND	NA
Acetone	ND	70000
Acrylonitrile	ND	0.9
Benzene	ND	2
Bromodichloromethane	ND	1
Bromoform	ND	81
Bromomethane	ND	25
Carbon tetrachloride	ND	0.6
Chlorobenzene	ND	510
Chloroform	ND	0.6
Chloromethane	ND	4
Cis-1,2-Dichloroethene	ND	230
Trans-1,2-Dichloroethene	ND	300
Dibromochloromethane	ND	3
Ethylbenzene	ND	7800
Methylene Chloride	ND	34
Styrene	ND	90
Naphthalene	ND	6
Tetrachloroethene (PCE)	ND	2
Toluene	ND	6300
Xylenes (Total)	ND	12000
Trichloroethene (TCE)	ND	7
Trichlorofluoromethane	ND	23000
Tertiary Butyl Alcohol	ND	1400
Vinyl Chloride	ND	0.7
Tentatively Identified Compounds	ND	NA
Total VO's and TICs	ND	NA

Results are in mg/kg (milligrams per kilogram) unless otherwise specified.
(*) NJDEP's most stringent "Residential Direct Contact Soil Remediation Standards"
ND: NOT DETECTED (see laboratory report for detection limits) NA–NOT AVAILABLE

TABLE 3 – TEST RESULTS FOR SEMI-VOLATILE ORGANIC COMPOUNDS

SAMPLING DATE:	08-24-2012 (Client)	**SAMPLE MATRIX:** Stone Fines

PARAMETER	SAMPLE #12-169-7 RESULT	NJDEP SOIL REMEDIATION STANDARD(*)
bis(2-chloroethyl) ether	ND	0.4
1,3–Dichlorobenzene	ND	5300
1,4–Dichlorobenzene	ND	5
1,2–Dichlorobenzene	ND	5300
Benzyl alcohol	ND	NA
bis(2-chloroisopropyl) ether	ND	23
bis(2-ethylhexyl) phthalate	ND	35
Hexachloroethane	ND	35
n-Nitroso-di-n-propylamine	ND	0.2
Nitrobenzene	ND	31
Isophorone	ND	510
1,2,4–Trichlorobenzene	ND	73
4–Chloroaniline	ND	NA
Hexachloro-1,3-butadiene	ND	6
Hexachlorocyclopentadiene	ND	45
Dimethylphthalate	ND	NA
Diethylphthalate	ND	49,000
2,4-Dinitrotoluene	ND	0.7
2,6- Dinitrotoluene	ND	0.7
n-Nitrosodiphenylamine	ND	99
Hexachlorobenzene	ND	0.3
Butylbenzylphthalate	ND	1200
4–Chloro-3-methylphenol	ND	NA
2–Chlorophenol	ND	310
Di-n-butyl phthalate	ND	6100
Di-n-octyl phthalate	ND	2400
3,3'-Dichlorobenzidine	ND	1
2,4-Dichlorophenol	ND	180

Results are in mg/kg (milligrams per kilogram) unless otherwise specified.

(*) NJDEP's most stringent "Residential Direct Contact Soil Remediation Standards"

ND: *Not Detected (see laboratory report for detection limits)*

NA – NOT APPLICABLE/NOT AVAILABLE

TABLE 3 - TEST RESULTS FOR SEMI-VOLATILE ORGANIC COMPOUNDS (continued)

SAMPLING DATE:	08-24-2012 (Client)	SAMPLE MATRIX: Stone Fines

PARAMETER	SAMPLE #12-169-7 RESULT	NJDEP SOIL REMEDIATION STANDARD(*)
2,4-Dimethylphenol	ND	1200
2,4-Dinitrophenol	ND	120
2-Methylphenol (o-Cresol)	ND	310
4-Methylphenol (p-Cresol)	ND	31
Pentachlorophenol	ND	3
Phenol	ND	18,000
2,4,5-Trichlorophenol	ND	6100
2,4,6-Trichlorophenol	ND	19
Benzoic Acid	ND	NA
Acenaphthene	ND	3400
Acenaphthylene	ND	NA
Anthracene	ND	17,000
Benzo[a]anthracene	ND	0.6
Benzo[a]pyrene	ND	0.2
Benzo[b]fluoranthene	ND	0.6
Benzo[k]fluoranthene	ND	6
Carbazole	ND	24
Chrysene	ND	62
Dibenz[a,h]anthracene	ND	0.2
Dibenzofuran	ND	NA
Fluoranthene	ND	2300
Fluorene	ND	2300
Indeno[1,2,3-cd]pyrene	ND	0.6
Naphthalene	ND	6
2-Methylnaphthalene	ND	230
Pyrene	ND	1700
Benzo[g,h,i]perylene	ND	380000
Phenanthrene	ND	NA
Total	ND	NA
Tentatively Identified Compounds (TICs)	ND	NA
Total	ND	NA

Results are in mg/kg (milligrams per kilogram) unless otherwise specified.
(*) NJDEP's most stringent "Residential Direct Contact Soil Remediation Standards"
ND: *Not Detected (see laboratory report for detection limits)*
NA - Not Applicable/Not Available
J – The concentration was detected at a value below the Reporting Limit and above the Method Detection Limit

TABLE 4- TEST RESULTS FOR PESTICIDES AND PCBs

SAMPLING DATE:	08-24-2012 (Client)	SAMPLE MATRIX: Stone Fines

PARAMETER	SAMPLE #12-169-7 RESULT	NJDEP SOIL REMEDIATION STANDARDS(*)
PESTICIDES		
Aldrin	ND	0.04
4,4' – DDD	ND	3
4,4' – DDE	ND	2
4,4' – DDT	ND	2
Dieldrin	ND	0.04
Endosulfan I and Endosulfan II	ND	470
Endosulfan sulfate	ND	470
Endrin	ND	23
Heptachlor	ND	0.1
Heptachlor epoxide	ND	0.07
alpha-BHC	ND	0.1
beta-BHC	ND	0.4
gamma – BHC (Lindane)	ND	0.4
Methoxychlor	ND	390
Toxaphene	ND	0.6
Chlordane	ND	0.2
PCBs		
Aroclor - 1016	ND	NA
Aroclor - 1221	ND	NA
Aroclor - 1232	ND	NA
Aroclor - 1242	ND	NA
Aroclor - 1248	ND	NA
Aroclor - 1254	ND	NA
Aroclor - 1260	ND	NA
Aroclor - 1262	ND	NA
Aroclor - 1268	ND	NA
Total PCBs	ND	0.20 (TOTAL PCBs)

Results are in mg/kg (milligrams per kilogram) unless otherwise specified.

(*) NJDEP's most stringent "Residential Direct Contact Soil Remediation Standards"

ND: *Not Detected (see laboratory report for detection limits)*
NA - Not Applicable/Not Available

S & S ENVIRONMENTAL SCIENCES, INC.

Environmental Engineering, Testing and Consultation

98 Sand Park Rad, Cedar Grove, NJ 07009
Tel (973) 857-7188 Fax (973) 239-8380

NJDEP Lab Certification No. 07073

SAMPLE CHAIN OF CUSTODY

CLIENT	Sevenson Environmental / TILCON	SSES PROJECT NO.	
ADDRESS	2749 Lock Port Road	TEL. NO.	
	Niagra Falls, N.Y. 14305	FAX NO.	
PROJECT	Study Area 7 Sediment Remedy	PROJECT LAB ID NO.	12-169

SAMPLE NUMBER	SAMPLING DATE	SAMPLING TIME	SAMPLE TYPE	NO. OF BOTTLES	ANALYSES REQUESTED
7A	8/24/12	8:00 AM	Grab	1	Clean Fill
7B	8/24/12	8:00 AM	Grab	1	Clean Fill

Comments: Tilcon NY, NJ Division
"Grits" from Mt. Hope Quarry

2 WK

Field Measurements: pH=_____ Temp.=_____ Flow Rate=_____

Sample Preservation: Cooled at 4° C ✓ H_2SO_4_____ NaOH_____

HNO$_3$_____ HCl_____ Sodium Thiosulfate_____ Other_____

Sampled By: GINO LABBATTE

RELINQUISHED BY:	RECEIVED BY:	DATE AND TIME:

INTEGRATED ANALYTICAL LABORATORIES, LLC.

SUMMARY REPORT
Client: S & S Environmental
Project: MT. HOPE
Lab Case No.: E12-08600

Lab ID:		**08600-001**	
Client ID:		**12-169-7**	
Matrix:		**Soil**	
Sampled Date		**8/24/12**	
PARAMETER(Units)	Conc	Q	MDL
Volatiles (Units)		*(mg/Kg-ppm)*	
TOTAL VO's:	ND		
TOTAL TIC's:	ND		
TOTAL VO's & TIC's:	ND		
Semivolatiles - BNA (Units)		*(mg/Kg-ppm)*	
TOTAL BNA'S:	ND		
TOTAL TIC's:	ND		
TOTAL BNA'S & TIC's:	ND		
PCB's (Units)		*(mg/Kg-ppm)*	
Aroclor-1016	ND		0.000696
Aroclor-1221	ND		0.000696
Aroclor-1232	ND		0.000696
Aroclor-1242	ND		0.000696
Aroclor-1248	ND		0.000696
Aroclor-1254	ND		0.000696
Aroclor-1260	ND		0.000696
Aroclor-1262	ND		0.000696
Aroclor-1268	ND		0.000696
PCBs	ND		0.000696
Pesticides (Units)		*(mg/Kg-ppm)*	
alpha-BHC	ND		0.000174
beta-BHC	ND		0.000174
gamma-BHC (Lindane)	ND		0.000174
delta-BHC	ND		0.000174
Heptachlor	ND		0.000174
Aldrin	ND		0.000174
Heptachlor epoxide	ND		0.000174
Endosulfan I	ND		0.000174
4,4'-DDE	ND		0.000174
Dieldrin	ND		0.000174
Endrin	ND		0.000174
Endosulfan II	ND		0.000174
4,4'-DDD	ND		0.000174
Endrin aldehyde	ND		0.000174
Endosulfan sulfate	ND		0.000174
4,4'-DDT	ND		0.000174
Endrin ketone	ND		0.000174
Methoxychlor	ND		0.000174
alpha-Chlordane	ND		0.000174
gamma-Chlordane	ND		0.000174
Toxaphene	ND		0.00209
Endosulfan (I and II)	ND		0.000174
Chlordane (alpha and gamma)	ND		0.000174

ND = Analyzed for but Not Detected at the MDL
J = The concentration was detected at a value below the RL and above the MDL
All qualifiers on individual Volatiles & Semivolatiles are carried down through summation.

INTEGRATED ANALYTICAL LABORATORIES, LLC.

SUMMARY REPORT
Client: S & S Environmental
Project: MT. HOPE
Lab Case No.: E12-08600

Lab ID:		**08600-001**	
Client ID:		**12-169-7**	
Matrix:		**Soil**	
Sampled Date		**8/24/12**	
PARAMETER(Units)	Conc	Q	MDL
NJ-EPH-C40 (Units)		*(mg/Kg-ppm)*	
C9-C40	ND		9.41
Metals (Units)		*(mg/Kg-ppm)*	
Aluminum	1950		5.63
Antimony	ND		0.282
Arsenic	0.420	J	0.282
Barium	16.1		2.82
Beryllium	0.239	J	0.225
Cadmium	ND		0.141
Calcium	3010		28.2
Chromium	3.24		0.563
Cobalt	2.34		0.563
Copper	9.79		0.563
Iron	11600		14.1
Lead	0.388	J	0.141
Magnesium	1430		14.1
Manganese	88.5		0.282
Mercury	ND		0.00656
Nickel	ND		0.563
Potassium	695		14.1
Selenium	ND		1.13
Silver	ND		0.141
Sodium	122		28.2
Thallium	ND		0.141
Vanadium	3.34		0.563
Zinc	7.26		2.25
General Analytical (Units)			
Hexavalent Chromium(mg/Kg-ppm)	ND		0.247
Cyanide, Total(mg/Kg-ppm)	ND		0.732
pH/Corrosivity(SU)	8.10		NA

ND = Analyzed for but Not Detected at the MDL
J = The concentration was detected at a value below the RL and above the MDL

S S Environmental
Project Name: MT. HOPE
IAL SDG No:E12-08600

Sample #:		NJDEP SOIL REMEDIATION STANDARDS			12-169-7			
Field ID:								
Lab ID:					08600-001			
Date Sampled:					08/24/2012			
Depth(ft):								
	CAS	Residential SRS (mg/Kg)	Non-Res SRS (mg/Kg)	Default IGW Screening Level (mg/Kg)				
Volatiles (mg/Kg)					Conc	Q	RL	MDL
Dichlorodifluoromethane	75-71-8	490	230000	25	ND		0.00105	0.00042
Chloromethane	74-87-3	4	12	NS	ND		0.00105	0.000431
Vinyl chloride	75-01-4	0.7	2	0.005	ND		0.00105	0.000504
Bromomethane	74-83-9	25	59	0.03	ND		0.00105	0.000368
Chloroethane	75-00-3	220	1100	NS	ND		0.00105	0.000473
Trichlorofluoromethane	75-69-4	23000	340000	22	ND		0.00105	0.000431
1,1-Dichloroethene	75-35-4	11	150	0.005	ND		0.00105	0.000525
Acetone	67-64-1	70000	NS	12	ND		0.00105	0.000735
Carbon disulfide	75-15-0	7800	110000	4	ND		0.00105	0.000357
Methylene chloride	75-09-2	34	97	0.007	ND		0.0021	0.00208
trans-1,2-Dichloroethene	156-60-5	300	720	0.4	ND		0.00105	0.000452
Methyl tert-butyl ether (MTBE)	1634-04-4	110	320	0.2	ND		0.00105	0.000242
1,1-Dichloroethane	75-34-3	8	24	0.2	ND		0.00105	0.000284
cis-1,2-Dichloroethene	156-59-2	230	560	0.2	ND		0.00105	0.000326
2-Butanone (MEK)	78-93-3	3100	44000	0.6	ND		0.00105	0.000389
Bromochloromethane	74-97-5	NS	NS	NS	ND		0.00105	0.000252
Chloroform	67-66-3	0.6	2	0.2	ND		0.00105	0.000305
1,1,1-Trichloroethane	71-55-6	290	4200	0.2	ND		0.00105	0.000347
Carbon tetrachloride	56-23-5	0.6	2	0.005	ND		0.00105	0.000431
1,2-Dichloroethane (EDC)	107-06-2	0.9	3	0.005	ND		0.00105	0.000221
Benzene	71-43-2	2	5	0.005	ND		0.00105	0.000252
Trichloroethene	79-01-6	7	20	0.007	ND		0.00105	0.000336
1,2-Dichloropropane	78-87-5	2	5	0.005	ND		0.00105	0.000231
1,4-Dioxane	123-91-1	NS	NS	NS	ND		0.210	0.016
Bromodichloromethane	75-27-4	1	3	0.005	ND		0.00105	0.000336
cis-1,3-Dichloropropene	10061-01-5	NS	NS	NS	ND		0.00105	0.000273
4-Methyl-2-pentanone (MIBK)	108-10-1	NS	NS	NS	ND		0.00105	0.000252
Toluene	108-88-3	6300	91000	4	ND		0.00105	0.000263
trans-1,3-Dichloropropene	10061-02-6	NS	NS	NS	ND		0.00105	0.000273
1,1,2-Trichloroethane	79-00-5	2	6	0.01	ND		0.00105	0.00021
Tetrachloroethene	127-18-4	2	5	0.005	ND		0.00105	0.000273
2-Hexanone	591-78-6	NS	NS	NS	ND		0.00105	0.000378
Dibromochloromethane	124-48-1	3	8	0.005	ND		0.00105	0.000231
1,2-Dibromoethane (EDB)	106-93-4	0.008	0.04	0.005	ND		0.00105	0.000221
Chlorobenzene	108-90-7	510	7400	0.4	ND		0.00105	0.000231
Ethylbenzene	100-41-4	7800	110000	8	ND		0.00105	0.000326
Total Xylenes	1330-20-7	12000	170000	12	ND		0.0021	0.00111
Styrene	100-42-5	90	260	2	ND		0.00105	0.000315

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S S Environmental
Project Name: MT. HOPE
IAL SDG No:E12-08600

Bromoform	75-25-2	81	280	0.02	ND		0.00105	0.000336
Isopropylbenzene	98-82-8	NS	NS	NS	ND		0.00105	0.000431
1,1,2,2-Tetrachloroethane	79-34-5	1	3	0.005	ND		0.00105	0.000242
1,3-Dichlorobenzene	541-73-1	5300	59000	12	ND		0.00105	0.000326
1,4-Dichlorobenzene	106-46-7	5	13	1	ND		0.00105	0.000326
1,2-Dichlorobenzene	95-50-1	5300	59000	11	ND		0.00105	0.000378
1,2-Dibromo-3-chloropropane	96-12-8	0.08	0.2	0.005	ND		0.00105	0.000525
1,2,4-Trichlorobenzene	120-82-1	73	820	0.4	ND		0.00105	0.000546
1,2,3-Trichlorobenzene	87-61-6	NS	NS	NS	ND		0.00105	0.000504
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	NS	NS	NS	ND		0.00105	0.000578
Methyl acetate	79-20-9	78000	NS	14	ND		0.00105	0.000609
Cyclohexane	110-82-7	NS	NS	NS	ND		0.00105	0.000441
Methylcyclohexane	108-87-2	NS	NS	NS	ND		0.00105	0.000525
1,3-Dichloropropene (cis- and trans-)	542-75-6	2	7	0.005	ND		0.00105	0.000273
TOTAL VO's:		NS	NS	NS	ND			NA
TOTAL TIC's:		NS	NS	NS	ND			NA
TOTAL VO's & TIC's:		NS	NS	NS	ND			NA

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S S Environmental
Project Name: MT. HOPE
IAL SDG No:E12-08600

Semivolatiles - BNA (mg/Kg)					Conc	Q	RL	MDL
Benzaldehyde	100-52-7	6100	68000	NS	ND		0.034	0.011
Phenol	108-95-2	18000	210000	5	ND		0.034	0.012
Bis(2-chloroethyl) ether	111-44-4	0.4	2	0.2	ND		0.034	0.013
2-Chlorophenol	95-57-8	310	2200	0.5	ND		0.034	0.011
2-Methylphenol	95-48-7	310	3400	NS	ND		0.034	0.011
Bis(2-chloroisopropyl) ether	108-60-1	23	67	3	ND		0.034	0.016
4-Methylphenol **	106-44-5	31	340	NS	ND		0.034	0.012
N-Nitrosodi-n-propylamine	621-64-7	0.2	0.3	0.2	ND		0.034	0.012
Acetophenone	98-86-2	2	5	2	ND		0.034	0.013
Hexachloroethane	67-72-1	35	140	0.2	ND		0.034	0.00999
Nitrobenzene	98-95-3	31	340	0.2	ND		0.034	0.012
Isophorone	78-59-1	510	2000	0.2	ND		0.034	0.016
2-Nitrophenol	88-75-5	NS	NS	NS	ND		0.034	0.012
2,4-Dimethylphenol	105-67-9	1200	14000	0.7	ND		0.034	0.011
Bis(2-chloroethoxy) methane	111-91-1	NS	NS	NS	ND		0.034	0.010
2,4-Dichlorophenol	120-83-2	180	2100	0.2	ND		0.034	0.011
Naphthalene	91-20-3	6	17	16	ND		0.034	0.00985
4-Chloroaniline	106-47-8	NS	NS	NS	ND		0.034	0.010
Hexachlorobutadiene	87-68-3	6	25	0.6	ND		0.034	0.010
Caprolactam	105-60-2	31000	340000	8	ND		0.034	0.017
4-Chloro-3-methylphenol	59-50-7	NS	NS	NS	ND		0.034	0.012
2-Methylnaphthalene	91-57-6	230	2400	5	ND		0.034	0.015
Hexachlorocyclopentadiene	77-47-4	45	110	210	ND		0.034	0.010
2,4,6-Trichlorophenol	88-06-2	19	74	0.2	ND		0.034	0.011
2,4,5-Trichlorophenol	95-95-4	6100	68000	44	ND		0.034	0.012
1,1'-Biphenyl	92-52-4	3100	34000	90	ND		0.034	0.011
2-Chloronaphthalene	91-58-7	NS	NS	NS	ND		0.034	0.011
2-Nitroaniline	88-74-4	39	23000	NS	ND		0.034	0.017
Dimethyl phthalate	131-11-3	NS	NS	NS	ND		0.034	0.012
2,6-Dinitrotoluene	606-20-2	0.7	3	NS	ND		0.034	0.011
Acenaphthylene	208-96-8	NS	300000	NS	ND		0.034	0.014
3-Nitroaniline	99-09-2	NS	NS	NS	ND		0.034	0.014
Acenaphthene	83-32-9	3400	37000	74	ND		0.034	0.010
2,4-Dinitrophenol	51-28-5	120	1400	0.3	ND		0.034	0.014
4-Nitrophenol	100-02-7	NS	NS	NS	ND		0.034	0.014
2,4-Dinitrotoluene	121-14-2	0.7	3	NS	ND		0.034	0.010
Dibenzofuran	132-64-9	NS	NS	NS	ND		0.034	0.011
Diethyl phthalate	84-66-2	49000	550000	57	ND		0.034	0.010
Fluorene	86-73-7	2300	24000	110	ND		0.034	0.010
4-Chlorophenyl phenyl ether	7005-72-3	NS	NS	NS	ND		0.034	0.011
4-Nitroaniline	100-01-6	NS	NS	NS	ND		0.034	0.010
1,2,4,5-Tetrachlorobenzene	95-94-3	NS	NS	NS	ND		0.034	0.014
2,3,4,6-Tetrachlorophenol	58-90-2	NS	NS	NS	ND		0.034	0.017
4,6-Dinitro-2-methylphenol	534-52-1	6	68	0.3	ND		0.034	0.012
N-Nitrosodiphenylamine	86-30-6	99	390	0.2	ND		0.034	0.011

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S S Environmental
Project Name: MT. HOPE
IAL SDG No:E12-08600

4-Bromophenyl phenyl ether	101-55-3	NS	NS	NS	ND		0.034	0.012
Hexachlorobenzene	118-74-1	0.3	1	0.2	ND		0.034	0.014
Atrazine	1912-24-9	210	2400	0.2	ND		0.034	0.011
Pentachlorophenol	87-86-5	3	10	0.3	ND		0.034	0.012
Phenanthrene	85-01-8	NS	300000	NS	ND		0.034	0.010
Anthracene	120-12-7	17000	30000	1500	ND		0.034	0.014
Carbazole	86-74-8	24	96	NS	ND		0.034	0.013
Di-n-butyl phthalate	84-74-2	6100	68000	620	ND		0.034	0.011
Fluoranthene	206-44-0	2300	24000	840	ND		0.034	0.012
Pyrene	129-00-0	1700	18000	550	ND		0.034	0.011
Butyl benzyl phthalate	85-68-7	1200	14000	150	ND		0.034	0.00999
3,3'-Dichlorobenzidine	91-94-1	1	4	0.2	ND		0.034	0.012
Benzo[a]anthracene	56-55-3	0.6	2	0.5	ND		0.034	0.015
Chrysene	218-01-9	62	230	52	ND		0.034	0.013
Bis(2-ethylhexyl) phthalate	117-81-7	35	140	790	ND		0.034	0.017
Di-n-octyl phthalate	117-84-0	2400	27000	3300	ND		0.034	0.013
Benzo[b]fluoranthene	205-99-2	0.6	2	2	ND		0.034	0.018
Benzo[k]fluoranthene	207-08-9	6	23	16	ND		0.034	0.018
Benzo[a]pyrene	50-32-8	0.2	0.2	0.2	ND		0.034	0.015
Indeno[1,2,3-cd]pyrene	193-39-5	0.6	2	5	ND		0.034	0.00999
Dibenz[a,h]anthracene	53-70-3	0.2	0.2	0.5	ND		0.034	0.011
Benzo[g,h,i]perylene	191-24-2	380000	30000	NS	ND		0.034	0.014
Dinitrotoluene (2,4- and 2,6-)	25321-14-6	0.7	3	0.2	ND		0.034	0.011
TOTAL BNA'S:		NS	NS	NS	ND			NA
TOTAL TIC's:		NS	NS	NS	ND			NA
TOTAL BNA'S & TIC's:		NS	NS	NS	ND			NA

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S S Environmental
Project Name: MT. HOPE
IAL SDG No:E12-08600

PCB's (mg/Kg)					Conc	Q	RL	MDL
Aroclor-1016	12674-11-2	NS	NS	NS	ND		0.00174	0.000696
Aroclor-1221	11104-28-2	NS	NS	NS	ND		0.00174	0.000696
Aroclor-1232	11141-16-5	NS	NS	NS	ND		0.00174	0.000696
Aroclor-1242	53469-21-9	NS	NS	NS	ND		0.00174	0.000696
Aroclor-1248	12672-29-6	NS	NS	NS	ND		0.00174	0.000696
Aroclor-1254	11097-69-1	NS	NS	NS	ND		0.00174	0.000696
Aroclor-1260	11096-82-5	NS	NS	NS	ND		0.00174	0.000696
Aroclor-1262	37324-23-5	NS	NS	NS	ND		0.00174	0.000696
Aroclor-1268	11100-14-4	NS	NS	NS	ND		0.00174	0.000696
PCBs	1336-36-3	0.2	1	0.2	ND		0.00174	0.000696

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S S Environmental
Project Name: MT. HOPE
IAL SDG No:E12-08600

Pesticides (mg/Kg)					Conc	Q	RL	MDL
alpha-BHC	319-84-6	0.1	0.5	0.002	ND		0.000348	0.000174
beta-BHC	319-85-7	0.4	2	0.002	ND		0.000348	0.000174
gamma-BHC (Lindane)	58-89-9	0.4	2	0.002	ND		0.000348	0.000174
delta-BHC	319-86-8	NS	NS	NS	ND		0.000348	0.000174
Heptachlor	76-44-8	0.1	0.7	0.3	ND		0.000348	0.000174
Aldrin	309-00-2	0.04	0.2	0.1	ND		0.000348	0.000174
Heptachlor epoxide	1024-57-3	0.07	0.3	0.009	ND		0.000348	0.000174
Endosulfan I	959-98-8	NS	NS	NS	ND		0.000348	0.000174
4,4'-DDE	72-55-9	2	9	12	ND		0.000348	0.000174
Dieldrin	60-57-1	0.04	0.2	0.003	ND		0.000348	0.000174
Endrin	72-20-8	23	340	0.6	ND		0.000348	0.000174
Endosulfan II	33213-65-9	NS	NS	NS	ND		0.000348	0.000174
4,4'-DDD	72-54-8	3	13	3	ND		0.000348	0.000174
Endrin aldehyde	7421-93-4	NS	NS	NS	ND		0.000348	0.000174
Endosulfan sulfate	1031-07-8	470	6800	1	ND		0.000348	0.000174
4,4'-DDT	50-29-3	2	8	7	ND		0.000348	0.000174
Endrin ketone	53494-70-5	NS	NS	NS	ND		0.000348	0.000174
Methoxychlor	72-43-5	390	5700	100	ND		0.000348	0.000174
alpha-Chlordane	5103-71-9	NS	NS	NS	ND		0.000348	0.000174
gamma-Chlordane	5103-74-2	NS	NS	NS	ND		0.000348	0.000174
Toxaphene	8001-35-2	0.6	3	0.2	ND		0.00435	0.00209
Endosulfan (I and II)	115-29-7	470	6800	2	ND		0.000348	0.000174
Chlordane (alpha and gamma)	57-74-9	0.2	1	0.03	ND		0.000348	0.000174

Standards are based upon published regulatory information.
Users are encouraged to consult appropriate regulatory sources for current values and updates.
IAL assumes no responsibility for the accuracy of these values.

EDD created on 9/10/12

S S Environmental
Project Name: MT. HOPE
IAL SDG No:E12-08600

NJ-EPH-C40 (mg/Kg)					Conc	Q	RL	MDL
C9-C40	IALC9C40	NS	NS	NS	ND		37.7	9.41

Standards are based upon published regulatory information.
Users are encouraged to consult appropriate regulatory sources for current values and updates.
IAL assumes no responsibility for the accuracy of these values.

EDD created on 9/10/12

S S Environmental
Project Name: MT. HOPE
IAL SDG No:E12-08600

Metals (mg/Kg)					Conc	Q	RL	MDL
Aluminum	7429-90-5	78000	NS	3900	1950		11.3	5.63
Antimony	7440-36-0	31	450	6	ND		1.13	0.282
Arsenic	7440-38-2	19	19	19	0.420	J	0.563	0.282
Barium	7440-39-3	16000	59000	1300	16.1		11.3	2.82
Beryllium	7440-41-7	16	140	0.5	0.239	J	0.394	0.225
Cadmium	7440-43-9	78	78	1	ND		0.563	0.141
Calcium	7440-70-2	NS	NS	NS	3010		56.3	28.2
Chromium	7440-47-3	NS	NS	NS	3.24		2.25	0.563
Cobalt	7440-48-4	1600	590	59	2.34		2.25	0.563
Copper	7440-50-8	3100	45000	7300	9.79		2.25	0.563
Iron	7439-89-6	NS	NS	NS	11600		28.2	14.1
Lead	7439-92-1	400	800	59	0.388	J	0.563	0.141
Magnesium	7439-95-4	NS	NS	NS	1430		56.3	14.1
Manganese	7439-96-5	11000	5900	42	88.5		1.13	0.282
Mercury	7439-97-6	23	65	0.1	ND		0.014	0.00656
Nickel	7440-02-0	1600	23000	31	ND		1.13	0.563
Potassium	7440-09-7'	NS	NS	NS	695		56.3	14.1
Selenium	7782-49-2	390	5700	7	ND		2.25	1.13
Silver	7440-22-4	390	5700	1	ND		0.563	0.141
Sodium	7440-23-5	NS	NS	NS	122		113	28.2
Thallium	7440-28-0	5	79	3	ND		0.563	0.141
Vanadium	7440-62-2	78	1100	NS	3.34		2.25	0.563
Zinc	7440-66-6	23000	110000	600	7.26		2.25	2.25

Standards are based upon published regulatory information.
Users are encouraged to consult appropriate regulatory sources for current values and updates.
IAL assumes no responsibility for the accuracy of these values.

EDD created on 9/10/12

S S Environmental
Project Name: MT. HOPE
IAL SDG No:E12-08600

General Analytical					Conc	Q	RL	MDL
Hexavalent Chromium-mg/Kg	18540-29-9	240	20	NS	ND		1.05	0.247
Cyanide, Total-mg/Kg	57-12-5	1600	23000	13	ND		1.05	0.732
pH/Corrosivity-SU	SRP 6	NS	NS	NS	8.10		NA	NA

NJDEP Soil Remediation Standards: Remediation Standards N.J.A.C. 7:26E, May 2012

BOLD Conc	Indicates a concentration that exceeds applicable criteria.
BOLD RL	Indicates RL that exceeds applicable criteria.
BOLD MDL	Indicates MDL that exceeds applicable criteria.

NS = No Standard Available
ND = Analyzed for but Not Detected at the MDL
J = The concentration was detected at a value below the RL and above the MDL
All qualifiers on individual Volatiles & Semivolatiles are carried down through summation.

Integrated Analytical Labs
273 Franklin Road
Randolph, NJ 07869

Contact Us: 973-361-4252
Fax: 973-989-5288
Web: www.ialonline.com

CUSTOMER INFO		REPORTING INFO	
Company:	VHS	REPORT TO:	
Address:		Address:	Same
Telephone #:		Attn:	
Fax #:		FAX #	
Project Manager:	Dr. Y Arlan	INVOICE TO:	
EMAIL Address:		Address:	Same
Sampler:	GL		
Project Name:	Mt. Hope		
Project Location (State):	NJ	Attn:	
Bottle Order #:		PO #	12-169
Quote # :			

Turnaround Time (starts the following day if samples rec'd at lab > 5PM)
*Lab notification is required for RUSH TAT prior to sample arrival. RUSH TAT IS NOT GUARANTEED WITHOUT LAB APPROVAL. **RUSH SURCHARGES WILL APPLY IF ABLE TO ACCOMMODATE

PHC - MUST CHOOSE
NJ EPH DRO (5 day TAT) — NJ EPH Fractionated (5 day TAT)
NJ EPH - C40 (5 day TAT) (circled)
DRO-8015 (3-5 day TAT) — QAM025 (5 day TAT)

Verbal/Fax: Std 2 wk unless otherwise specified
24 hr** 48 hr** 72 hr** 96 hr** 1 wk**
Other** (specify): 2 wk
Hard Copy: Std 3 week * Other - call for price

Rush TAT Charge **: 24 hr - 100%.... 48 hr - 75%.... 72 hr - 50%.... 96 hr - 35%.... 5 day - 25%.... 6-9 day 10%

Report Format: Results Only; Reduced (circled); Regulatory - 15% Surcharge applies; Other (describe)

EDDs: SRP format; lab approved custom EDD; NO EDD/CD REQ'D

Cooler Temp 4 °C

Sample Matrix: DW - Drinking Water AQ - Aqueous WW - Waste Water; OI - Oil LIQ - Liquid (Specify) OT - Other (Specify); S - Soil SL - Sludge SOL - Solid W - Wipe

SAMPLE INFORMATION

Client ID	Depth (ft only)	Sampling Date	Sampling Time	Matrix	# container	IAL #	TAL/TCL +30	EPH	pH, Cr+6	HCL	HNO3	MeOH	Other	None	Encore
12-169-7		8/24/12	8am	S	5	1	✓	✓	✓			1	2	2	

MW # 1355/1364/52798

Known Hazard: Yes or No Describe:
Conc. Expected: Low Med High
MDL Req: GWQS (11/05) - SRS - SRS/IGW - SRS Residential - OTHER (SEE COMMENTS)

Please print legibly and fill out completely. Samples cannot be processed and the turnaround time will not start until any ambiguities have been resolved.

Carrier (check one): ___ IAL Courier ___ Client Courier ___ FedEx/UPS

	Signature/Company	Date	Time		Signature/Company	Date	Time
Relinquished by:	[signature]	8/24/12	1:30	Received by:	[signature]	8/27/12	1:30
Relinquished by:	[signature]	8/27/12	2:14	Received by:	[signature]	8/27/12	2:14
Relinquished by:				Received by:			
Relinquished by:				Received by:			
Relinquished by:				Received by:			

Comments:

Lab Case # 08600

PAGE: of

LAB COPIES - WHITE & YELLOW; CLIENT COPY - PINK

INTEGRATED ANALYTICAL LABORATORIES, LLC

SAMPLE RECEIPT VERIFICATION

CASE NO: **E 12** **08600** CLIENT: STS

COOLER TEMPERATURE: 2° - 6°C: ✓ (See Chain of Custody)

Comments

COC: (COMPLETE) / INCOMPLETE

KEY

✓ = YES/NA
✗ = NO

✓	Bottles Intact
✓	no-Missing Bottles
✓	no-Extra Bottles
✓	Sufficient Sample Volume
✓	no-headspace/bubbles in VOs
✓	Labels intact/correct
✓	pH Check (exclude VOs)[1]
✓	Correct bottles/preservative
✓	Sufficient Holding/Prep Time[1]
	Sample to be Subcontracted
✓	**Chain of Custody is Clear**

[1] All samples with "Analyze Immediately" holding times will be analyzed by this laboratory past the holding time. This includes but is not limited to the following tests: pH, Temperature, Free Residual Chlorine, Total Residual Chlorine, Dissolved Oxygen, Sulfite.

ADDITIONAL COMMENTS:

SAMPLE(S) VERIFIED BY: INITIAL [signature] DATE 8/24/12

CORRECTIVE ACTION REQUIRED: **YES** (SEE BELOW) **NO** ✓

If COC is **NOT** clear, ***STOP*** until you get client to authorize/clarify work.

CLIENT NOTIFIED: YES Date/ Time: NO ✓

PROJECT CONTACT:

SUBCONTRACTED LAB:

DATE SHIPPED:

ADDITIONAL COMMENTS:

VERIFIED/TAKEN BY: INITIAL [signature] DATE 8.24.12

REV 03/2009

CONFIRMATION FOR PROJECT

E12-08600: MT. HOPE

To: Dr. Yilmaz Arhan
S & S Environmental
Fax: 1(973) 239-8380
EMail: angelal@sorlabs.com;Alig@sorlabs.con

Report To

S & S Environmental
98 Sand Park Road
Cedar Grove, NJ 07009
Attn: Dr. Yilmaz Arhan

Bill To

S & S Environmental
98 Sand Park Road
Cedar Grove, NJ 07009
Attn: Dr. Yilmaz Arhan

Report Format	P.O. #	Received At Lab	TPHC Due	Verbal Due	Hardcopy Due
Reduced	12-169	Aug 24, 2012 @ 14:14	NA	Sep 10, 2012	Sep 17, 2012 *

* Any *Conditional or Hold* status will delay final hardcopy report sent date.

Diskette Req. Not Required

**** QC Requirement (must meet):** NJ IGW

Lab ID	Client Sample ID	Depth	Sampling Time	Matrix	Unit	Field pH/Temp
08600-001	12-169-7	NA	08/24/12@08:00	Soil	mg/Kg (ppm)	

Sample #	Test	Status	QA Method	TAT	Holding Time Expires
001	TCL VO + 15	Analyze	8260B	STD/2 WKS	9/7/2012
	TCL BNA + 15	Analyze	8270C	STD/2 WKS	9/7/2012
	TCL Pesticides	Analyze	8081A	STD/2 WKS	9/7/2012
	NJ-EPH-Fractionated	Hold	Method 10.08 Re	STD/2 WKS	9/7/2012
	NJ-EPH-C40	Analyze	Method 10.08 Re	STD/2 WKS	9/7/2012
	TCL PCB	Analyze	8082	STD/2 WKS	9/7/2012
	TAL Metals	Analyze	6020/7471A	STD/2 WKS	9/21/2012
	Cyanide, Total	Analyze	9012B	STD/2 WKS	9/7/2012
	Cr-VI (Hexavalent Chromium)	Analyze	3060A/7196A	STD/2 WKS	9/23/2012
	pH/Corrosivity	Analyze	9045C	STD/2 WKS	9/21/2012

273 Franklin Road
Randolph, NJ 07869
Phone: 973 361 4252
Fax: 973 989 5288

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APPENDIX 1 - SOIL REMEDIATION STANDARDS TABLES

Table 1A - Residential Direct Contact Health Based Criteria and Soil Remediation Standards (mg/kg)

Contaminant	CAS No.	Ingestion-Dermal Health Based Criterion	Inhalation Health Based Criterion	Soil PQL	Residential Direct Contact Soil Remediation Standard
Acenaphthene	83-32-9	3,400	NA	0.2	3,400
Acenaphthylene	208-96-8	NA	NA	0.2	NA
Acetone (2-Propanone)	67-64-1	70,000	NA	0.01	70,000
Acetophenone	98-86-2	6,100	2	0.2	2
Acrolein	107-02-8	39	0.5	0.5	0.5
Acrylonitrile	107-13-1	1	0.9	0.5	0.9
Aldrin	309-00-2	0.04	5	0.002	0.04
Aluminum	7429-90-5	78,000	NA	20	78,000
Anthracene	120-12-7	17,000	380,000	0.2	17,000
Antimony	7440-36-0	31	360,000	6	31
Arsenic	7440-38-2	0.4	980	1	19*
Atrazine	1912-24-9	210	NA	0.2	210
Barium	7440-39-3	16,000	910,000	20	16,000
Benzaldehyde	100-52-7	6,100	NA	0.2	6100
Benzene	71-43-2	3	2	0.005	2
Benzidine	92-87-5	0.002	0.004	0.7	0.7
Benzo(a)anthracene (1,2-Benzanthracene)	56-55-3	0.6	38,000	0.2	0.6
Benzo(a)pyrene	50-32-8	0.06	3,800	0.2	0.2
Benzo(b)fluoranthene (3,4-Benzofluoranthene)	205-99-2	0.6	38,000	0.2	0.6
Benzo(ghi)perylene	191-24-2	NA	380,000	0.2	380,000
Benzo(k)fluoranthene	207-08-9	6	38,000	0.2	6
Beryllium	7440-41-7	16	1,800	0.5	16
1,1'-Biphenyl	92-52-4	3,100	NA	0.2	3,100
Bis(2-chloroethyl)ether	111-44-4	0.4	0.6	0.2	0.4
Bis(2-chloroisopropyl)ether	108-60-1	2,400	23	0.2	23
Bis(2-ethylhexyl) phthalate	117-81-7	35	NA	0.2	35
Bromodichloromethane (Dichlorobromomethane)	75-27-4	10	1	0.005	1
Bromoform	75-25-2	81	98	0.005	81
Bromomethane (Methyl bromide)	74-83-9	110	25	0.005	25
bromide)					
2-Butanone (Methyl ethyl ketone) (MEK)	78-93-3	3,100	NA	0.01	3,100
Butyl benzyl phthalate	85-68-7	1,200	NA	0.2	1,200
Cadmium	7440-43-9	78	1,000	0.5	78
Caprolactam	105-60-2	31,000	NA	0.2	31,000
Carbazole	86-74-8	24	740,000	0.2	24
Carbon disulfide	75-15-0	7,800	NA	0.5	7,800
Carbon tetrachloride	56-23-5	7	0.6	0.005	0.6

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Contaminant	CAS No.	Ingestion-Dermal Health Based Criterion	Inhalation Health Based Criterion	Soil PQL	Residential Direct Contact Soil Remediation Standard
Chlordane (alpha and gamma)	57-74-9	0.2	42,000	0.002	0.2
Chlorobenzene	108-90-7	510	NA	0.005	510
Chloroethane (Ethyl chloride)	75-00-3	220	NA	0.005	220
Chloroform	67-66-3	780	0.6	0.005	0.6
Chloromethane (Methyl chloride)	74-87-3	NA	4	0.005	4
2-Chlorophenol (o-Chlorophenol)	95-57-8	310	910	0.2	310
Chrysene	218-01-9	62	380,000	0.2	62
Cobalt	7440-48-4	1,600	9,100	5	1,600
Copper	7440-50-8	3,100	NA	3	3,100
Cyanide	57-12-5	1,600	NA	3	1,600
4,4'-DDD	72-54-8	3	61,000	0.003	3
4,4'-DDE	72-55-9	2	670	0.003	2
4,4'-DDT	50-29-3	2	44,000	0.003	2
Dibenz(a,h)anthracene	53-70-3	0.06	3,500	0.2	0.2
Dibromochloromethane (Chlorodibromomethane)	124-48-1	8	3	0.005	3
1,2-Dibromo-3-chloropropane	96-12-8	0.3	0.08	0.005	0.08
1,2-Dibromoethane	106-93-4	0.008	0.1	0.005	0.008
1,2-Dichlorobenzene (o-Dichlorobenzene)	95-50-1	5,300	NA	0.005	5,300
1,3-Dichlorobenzene (m-Dichlorobenzene)	541-73-1	5,300	NA	0.005	5,300
1,4-Dichlorobenzene (p-Dichlorobenzene)	106-46-7	610	5	0.005	5
3,3'-Dichlorobenzidine	91-94-1	1	3	0.2	1
Dichlorodifluoromethane	75-71-8	16,000	490	0.005	490
1,1-Dichloroethane	75-34-3	510	8	0.005	8
1,2-Dichloroethane	107-06-2	5	0.9	0.005	0.9
1,1-Dichloroethene	75-35-4	11	61	0.005	11
1,2-Dichloroethene (cis) (c-1,2-Dichloroethylene)	156-59-2	780	230	0.005	230
1,2-Dichloroethene (trans) (t-1,2-Dichloroethylene)	156-60-5	1,300	300	0.005	300
2,4-Dichlorophenol	120-83-2	180	NA	0.2	180
1,2-Dichloropropane	78-87-5	9	2	0.005	2
1,3-Dichloropropene (cis and trans)	542-75-6	6	2	0.005	2
Dieldrin	60-57-1	0.04	1	0.003	0.04
Diethyl phthalate	84-66-2	49,000	NA	0.2	49,000
2,4-Dimethyl phenol	105-67-9	1,200	NA	0.2	1,200
Di-n-butyl phthalate	84-74-2	6,100	NA	0.2	6,100
4,6-Dinitro-2-methylphenol (4,6-Dinitro-o-cresol)	534-52-1	6	730,000	0.3	6
2,4-Dinitrophenol	51-28-5	120	NA	0.3	120
2,4-Dinitrotoluene	121-14-2	0.7	6	0.2	0.7
2,6-Dinitrotoluene	606-20-2	0.7	2	0.2	0.7
2,4-Dinitrotoluene/2,6-Dinitrotoluene (mixture)	25321-14-6	0.7	NA	0.2	0.7
Di-n-octyl phthalate	117-84-0	2,400	NA	0.2	2,400
1,2-Diphenylhydrazine	122-66-7	0.6	5	0.7	0.7

Contaminant	CAS No.	Ingestion-Dermal Health Based Criterion	Inhalation Health Based Criterion	Soil PQL	Residential Direct Contact Soil Remediation Standard
Endosulfan I and Endosulfan II (alpha and beta)	115-29-7	470	NA	0.003	470
Endosulfan sulfate	1031-07-8	470	NA	0.003	470
Endrin	72-20-8	23	NA	0.003	23
Ethyl benzene	100-41-4	7,800	NA	0.005	7,800
Fluoranthene	206-44-0	2,300	NA	0.2	2,300
Fluorene	86-73-7	2,300	NA	0.2	2,300
alpha-HCH (alpha-BHC)	319-84-6	0.1	0.7	0.002	0.1
beta-HCH (beta-BHC)	319-85-7	0.4	8,000	0.002	0.4
Heptachlor	76-44-8	0.1	6	0.002	0.1
Heptachlor epoxide	1024-57-3	0.07	5	0.002	0.07
Hexachlorobenzene	118-74-1	0.3	1	0.2	0.3
Hexachloro-1,3-butadiene	87-68-3	6	12	0.2	6
Hexachlorocyclopentadiene	77-47-4	370	45	0.2	45
Hexachloroethane	67-72-1	35	83	0.2	35
Indeno(1,2,3-cd)pyrene	193-39-5	0.6	38,000	0.2	0.6
Isophorone	78-59-1	510	NA	0.2	510
Lead	7439-92-1	400	44,000	1	400
Lindane (gamma-HCH) (gamma-BHC)	58-89-9	0.4	3	0.002	0.4
Manganese	7439-96-5	11,000	91,000	2	11,000
Mercury	7439-97-6	23	27	0.1	23
Methoxychlor	72-43-5	390	NA	0.02	390
Methyl acetate	79-20-9	78,000	NA	0.005	78,000
Methylene chloride (Dichloromethane)	75-09-2	46	34	0.005	34
2-Methylnaphthalene	91-57-6	230	NA	0.17	230
2-Methylphenol (o-Creosol)	95-48-7	310	NA	0.2	310
4-Methylphenol (p-Creosol)	106-44-5	31	NA	0.2	31
Methyl tert-butyl ether (MTBE)	1634-04-4	780	110	0.005	110
Naphthalene	91-20-3	2,400	6	0.2	6
Nickel (Soluble salts)	7440-02-0	1,600	360,000	4	1,600
2-Nitroaniline	88-74-4	NA	39	0.3	39
Nitrobenzene	98-95-3	31	160	0.2	31
N-Nitrosodimethylamine	62-75-9	0.01	0.02	0.7	0.7
N-Nitrosodi-n-propylamine	621-64-7	0.07	0.2	0.2	0.2
N-Nitrosodiphenylamine	86-30-6	99	NA	0.2	99
Pentachlorophenol	87-86-5	3	590	0.3	3
Phenanthrene	85-01-8	NA	NA	0.2	NA
Phenol	108-95-2	18,000	NA	0.2	18,000
Polychlorinated biphenyls (PCBs)	1336-36-3	0.2	20	0.03	0.2
Pyrene	129-00-0	1,700	NA	0.2	1,700
Selenium	7782-49-2	390	NA	4	390
Silver	7440-22-4	390	NA	1	390

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Contaminant	CAS No.	Ingestion-Dermal Health Based Criterion	Inhalation Health Based Criterion	Soil PQL	Residential Direct Contact Soil Remediation Standard
Styrene	100-42-5	16,000	90	0.005	90
Tertiary butyl alcohol (TBA)	75-65-0	1,400	4,800	0.1	1,400
1,1,2,2-Tetrachloroethane	79-34-5	10	1	0.005	1
Tetrachloroethene (PCE) (Tetrachloroethylene)	127-18-4	8	2	0.005	2
Thallium	7440-28-0	5	360,000	3	5
Toluene	108-88-3	6,300	NA	0.005	6,300
Toxaphene	8001-35-2	0.6	70	0.2	0.6
1,2,4-Trichlorobenzene	120-82-1	73	NA	0.005	73
1,1,1-Trichloroethane	71-55-6	290	NA	0.005	290
1,1,2-Trichloroethane	79-00-5	31	2	0.005	2
Trichloroethene (TCE) (Trichloroethylene)	79-01-6	21	7	0.005	7
Trichlorofluoromethane	75-69-4	23,000	NA	0.005	23,000
2,4,5-Trichlorophenol	95-95-4	6,100	NA	0.2	6,100
2,4,6-Trichlorophenol	88-06-2	19	340	0.2	19
Vanadium	7440-62-2	78	NA	5	78
Vinyl chloride	75-01-4	2	0.7	0.005	0.7
Xylenes	1330-20-7	12,000	NA	0.005	12,000
Zinc	7440-66-6	23,000	NA	6	23,000

NA = Standard not available

* The direct contact standard for arsenic is based on natural background

CHROMIUM SOIL CLEANUP CRITERIA

September 2008 Revised April 2010[1]

The Department did not develop soil remediation standards for trivalent or hexavalent chromium as part of its Remediation Standards rules at N.J.A.C. 7:26D. The Department was awaiting the release of the final report from the National Toxicology Program (NTP) study evaluating hexavalent chromium as an oral carcinogen prior to proposing soil remediation standards. The NTP report was released in August 2008. The Department is reviewing the report and will make a determination regarding the adoption of remediation standards for chromium. Until such time, the Department will continue to use the following soil cleanup criteria for trivalent and hexavalent chromium as guidance.

Soil Cleanup Criteria for Chromium

Residential (mg/kg)						
Contaminant	**CAS No.**	**Ingestion-Dermal**	**Inhalation**	**Allergic Contact Dermatitis (ACD)**	**Soil PQL**	**Residential Criterion**
Trivalent Chromium	16065-83-1	120,000	NA	NA	2	120,000
Hexavalent Chromium	18540-29-9	240	270	Site-specific determination	2	240 or ACD value whichever is lower

Non-Residential (mg/kg)						
Contaminant	**CAS No.**	**Ingestion-Dermal**	**Inhalation**	**Allergic Contact Dermatitis**	**Soil PQL**	**Non-Residential Criterion**
Trivalent Chromium	16065-83-1	NA	NA	NA	2	Not Regulated
Hexavalent Chromium	18540-29-9	6,100	20	Site-specific determination	2	20

NA = Standard not available

[1] This revision corrects the CAS numbers that were mistakenly used for trivalent and hexavalent chromium in the September 2008 version. The CAS numbers were inadvertently switched.

Impact to ground water soil remediation standards must be developed on a site-specific basis for chromium. For Class II ground water, the ground water quality standard is 70 ug/l measured as total chromium but assuming that it is all in the form of hexavalent chromium.

In addition to the cleanup criteria listed above, all remedial actions at sites that have hexavalent chromium must comply with Commissioner Jackson's memorandum dated February 8, 2007. A copy of this memorandum can be found on the Department web site at http://www.state.nj.us/dep/dsr/chromium/crmorlift200702.pdf

More information about the Department chromium work group and chromium research efforts are available on the NJDEP web site at http://www.state.nj.us/dep/dsr/chromium .

TILCON
an Oldcastle company

Gradation Test With Sieve Chart Report

Plant 06000418-Mt. Hope Quarry
Product 1018001-DGA
Specification DGA

1730298790

Sample Information

Sample No 1730298790
Date Sampled 08/10/2012 16:36
Sampled By Lindsay Csabai
Type Shipping
Method Load-Out Face
Location
Process
Ledge
Other
Weather
Temp

Split Sample ☐
Resample ☐
Lot / Sublot
Quad / Quantity

Sequence Code

Test Note
1(1 1/2") : 1(3/4") : 1(Screenings)

Gradation Results

Date Completed 08/10/2012 16:36
Tested By Lindsay Csabai

Unit	Moist Mass	Dry Mass	Wash Mass	Moisture %	Wash Loss %	Procedure
lb		27.90	26.47		5.1	

Sieve	Mass Retained	Cum Mass Retained	Ind % Retained	% Retained	% Passing	Target	Specification	Comment
1 1/2" (37.5mm)	0.0	0.0	0.0	0.0	100.0		100-100	
1" (25mm)	2.9	2.9	10.4	10.4	89.6			
3/4" (19mm)	4.4	7.3	15.8	26.2	73.8		55-90	
1/2" (12.5mm)	7.6	14.9	27.2	53.4	46.6			
3/8" (9.5mm)	0.9	15.8	3.2	56.6	43.4			
#4 (4.75mm)	0.5	16.3	1.8	58.4	41.6		25-50	
#8 (2.36mm)	1.0	17.3	3.7	62.2	37.8			
#16 (1.18mm)	2.5	19.8	8.9	71.0	29.0			
#30 (0.6mm)	2.0	21.8	7.3	78.3	21.7			
#50 (0.3mm)	1.8	23.7	6.6	84.9	15.1		5-25	
#100 (0.15mm)	1.5	25.2	5.4	90.3	9.7			
#200 (75um)	1.1	26.3	3.8	94.2	5.8		3-10	
Pan	0.2	26.5	0.6	100.0	0.0			

TILCON
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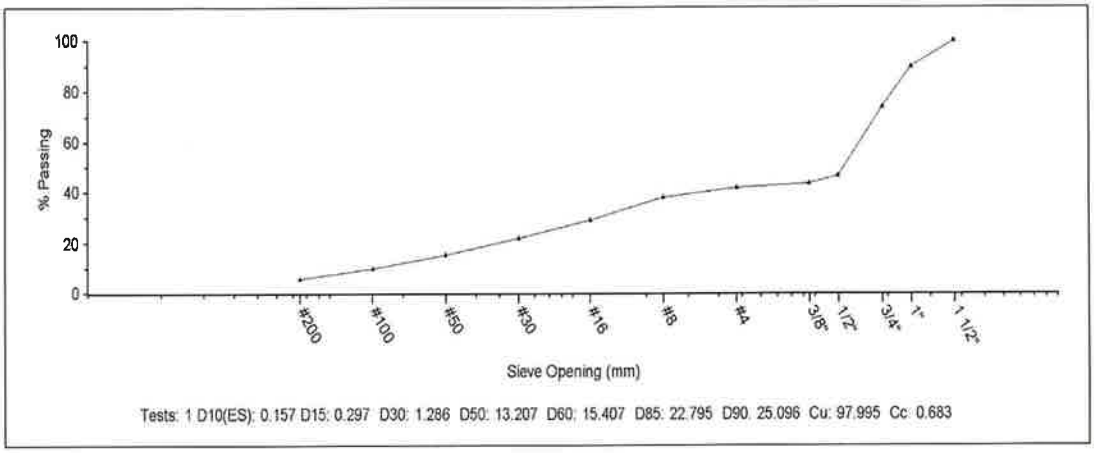
Gradation Test With Sieve Chart Report



Tests: 1 D10(ES): 0.157 D15: 0.297 D30: 1.286 D50: 13.207 D60: 15.407 D85: 22.795 D90: 25.096 Cu: 97.995 Cc: 0.683

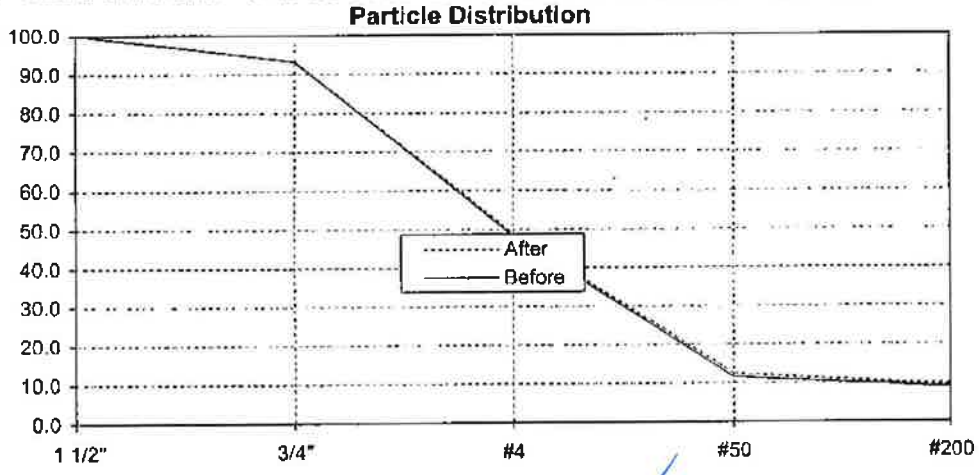
TILCON New Jersey, Materials Lab

Moisture Density Relationship.....AASHTO T-99 Method C

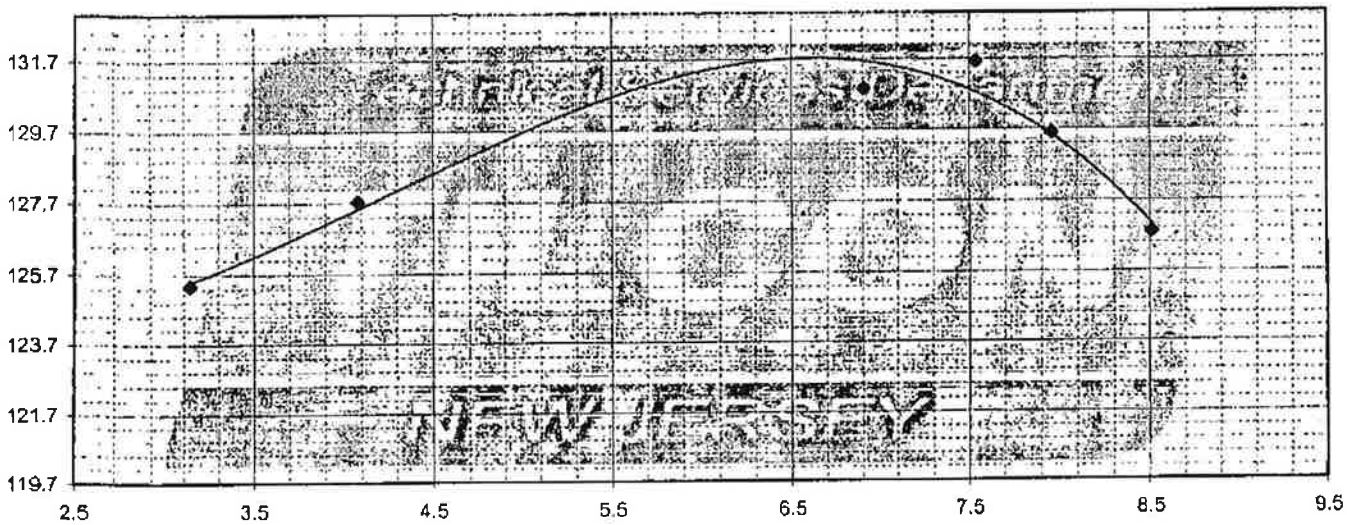
3/4 Replaced

Client		Material	D G A
Project		Class	
Source Location	Mt. Hope	Date Received	
		Date Tested	

Sieve	Before	After
1 1/2"	100.0	100.0
3/4"	93.2	93.3
#4	48.3	48.9
#50	11.6	12.4
#200	8.8	9.3



Maximum Density 131.7 #/ft3 @ optimum moisture of 6.6% moisture



TILCON NEW JERSEY IS COMMITTED TO PROVIDING THE HIGEST QUALITY SERVICE AND PRODUCT
This proctor is provided in conjunction with aggressive product development and process control procedures
OUR COMMITMENT SHOWS

This proctor is for process control only and should be verified by the contractor.

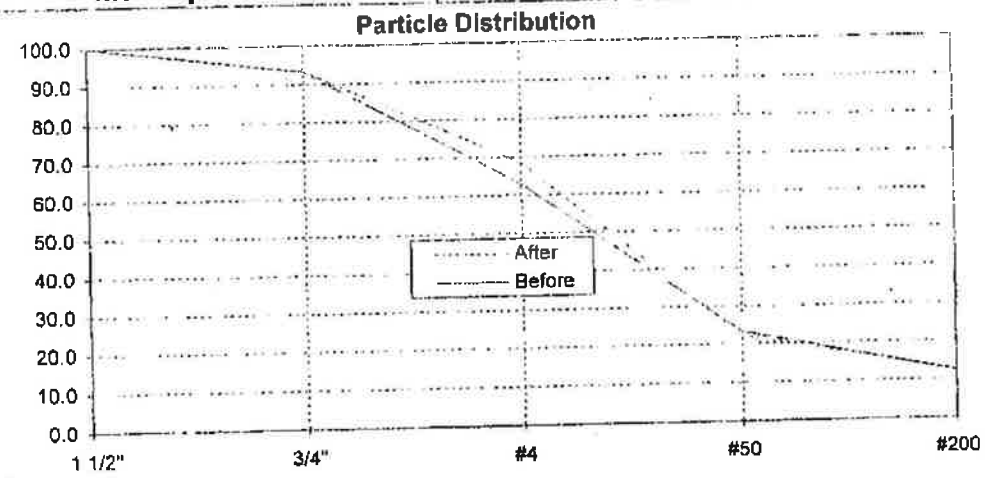
TILCON New Jersey, Materials Lab

Moisture Density Relationship.....AASHTO T-99 Method C

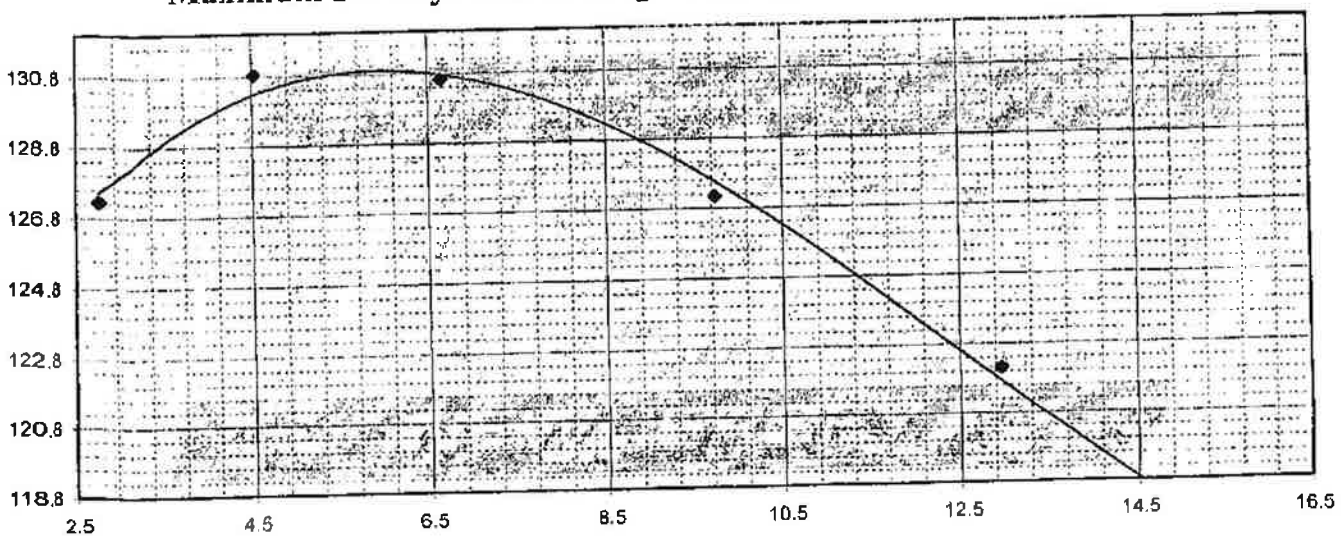
3/4 Replaced

Client		Material	QP	Class
Project	0	Date Received		7/16/2007
Source Location	Mt. Hope	Date Tested		7/16/2007

Sieve	Before	After
1 1/2"	100.0	100.0
3/4"	93.2	93.3
#4	62.9	68.5
#50	23.2	22.3
#200	12.2	12.4



Maximum Density 130.9 #/ft3 @ optimum moisture of 6.2% moisture



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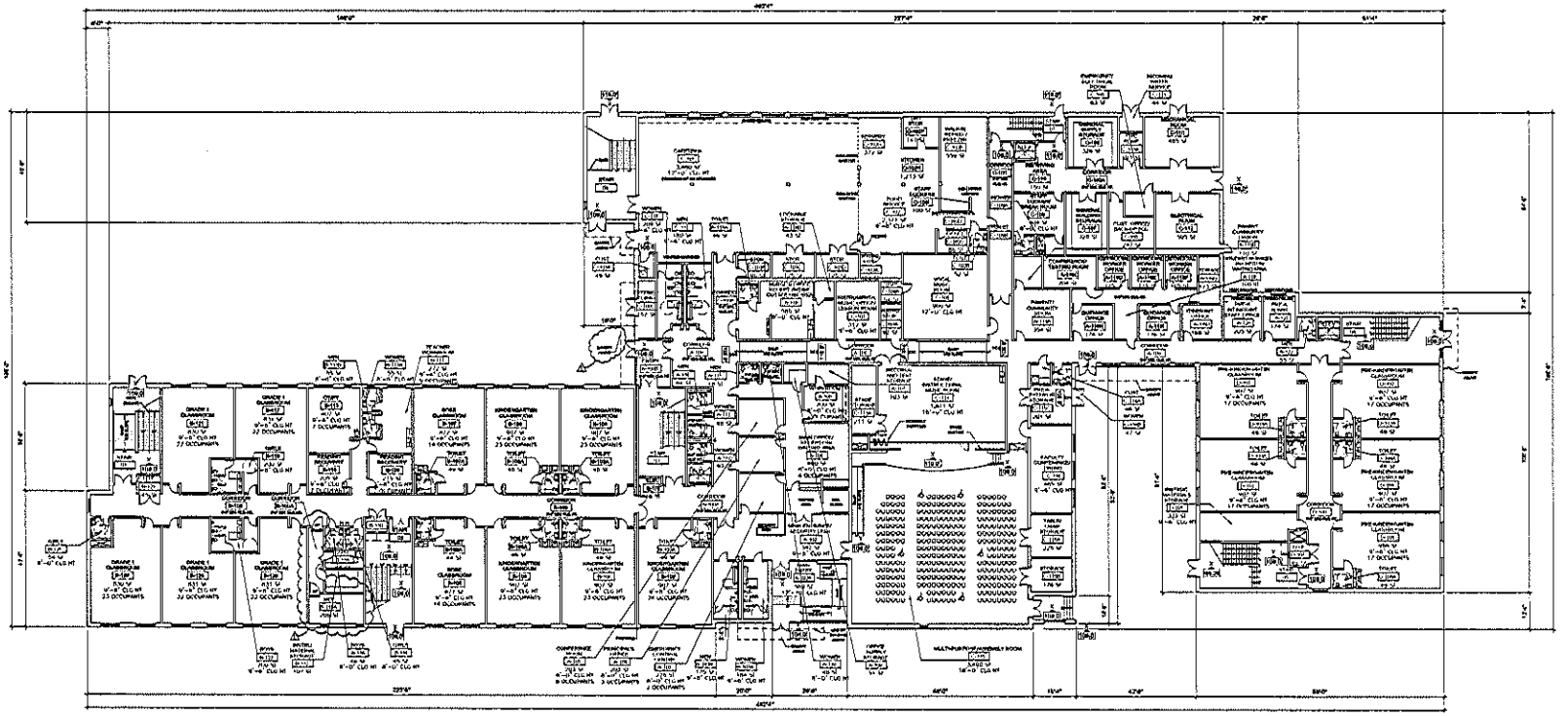


H1 FIRST FLOOR PLAN
1/16" = 1'- 0"

STATE OF NEW JERSEY
SCHOOLS DEVELOPMENT AUTHORITY
1 WEST STATE STREET, TRENTON, NEW JERSEY 08625

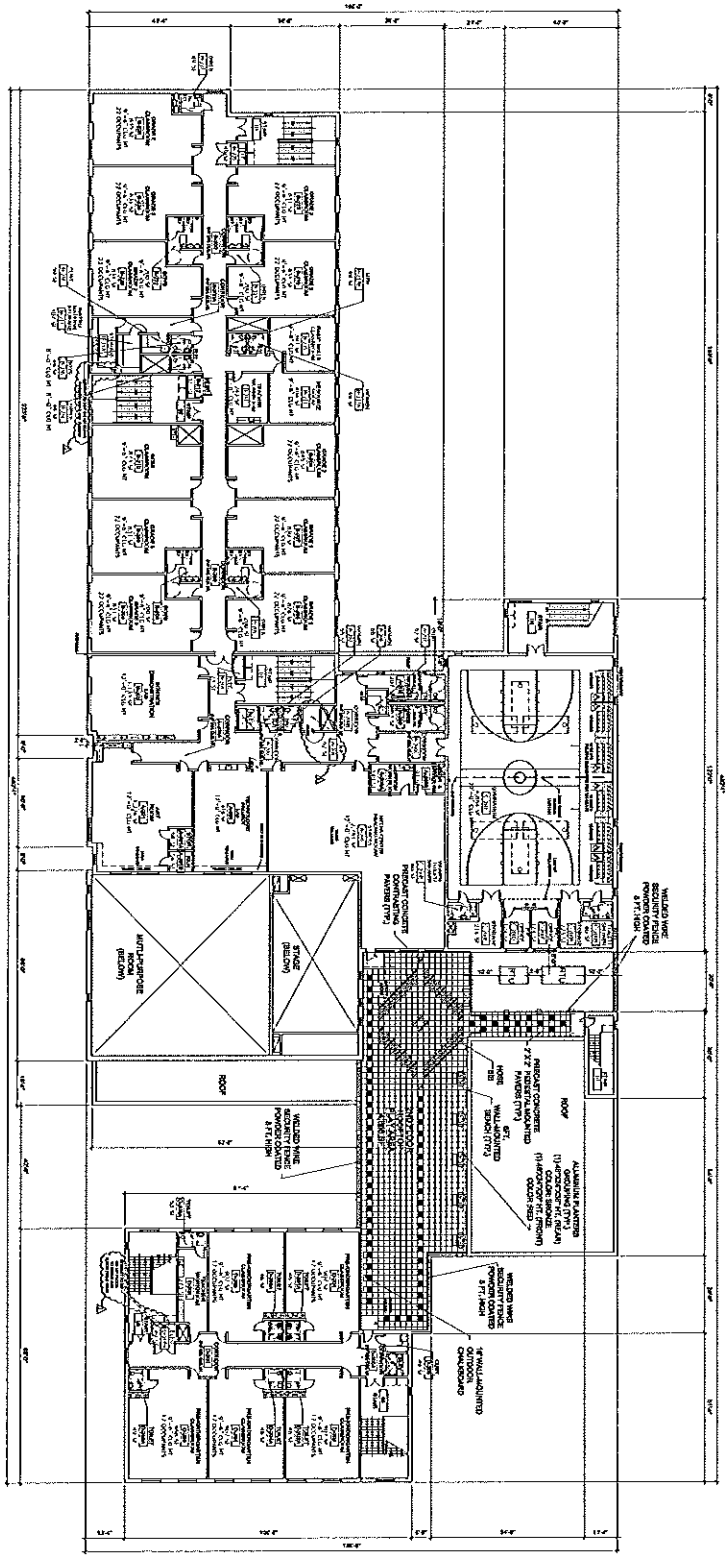
NEW ELEMENTARY SCHOOL #3
FOR
JERSEY CITY SCHOOL DISTRICT
JERSEY CITY, NJ

1/16" = 1'-0"
JSK
02/26/13

FIRST FLOOR PLAN

A-1

(H1) SECOND FLOOR PLAN
1/16" = 1'-0"



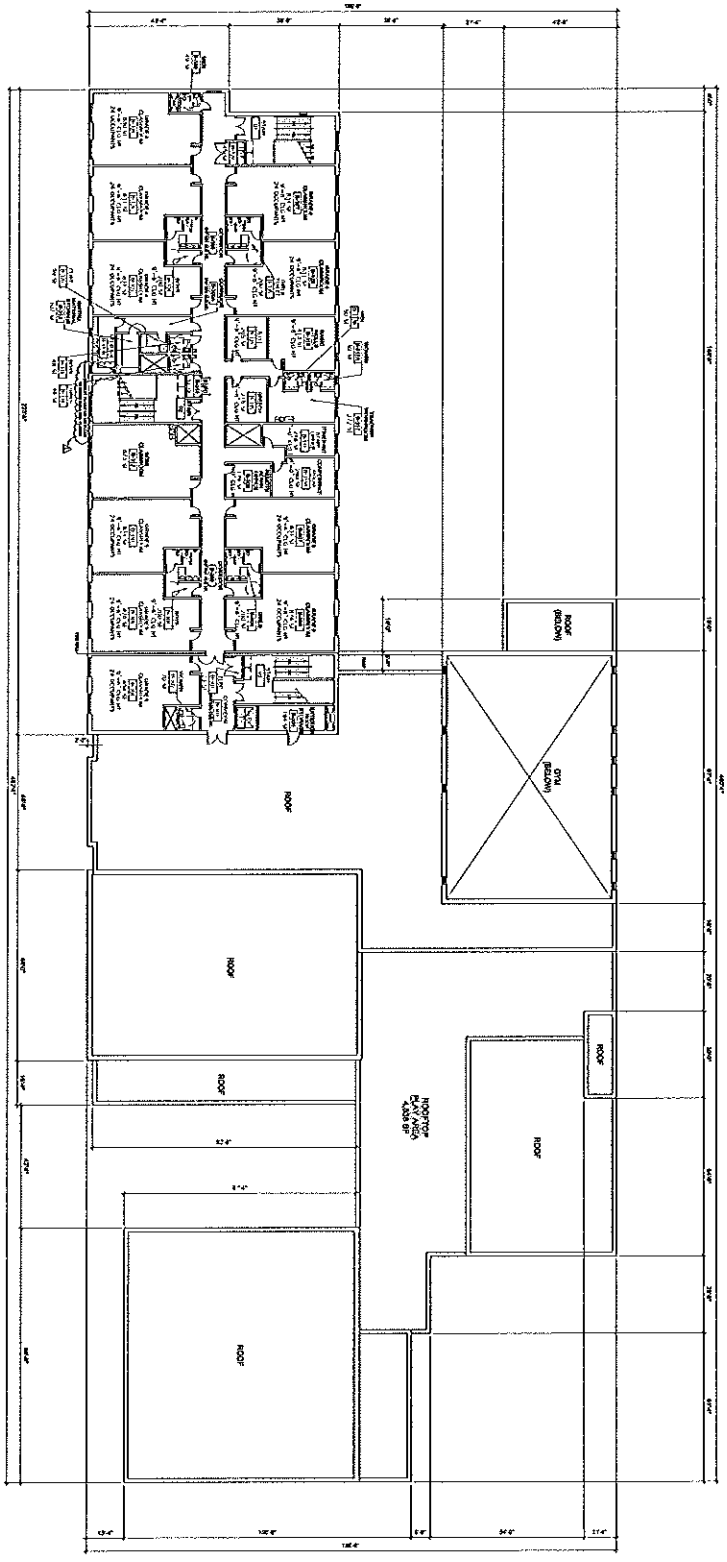
A-2

SECOND FLOOR PLAN

NEW ELEMENTARY SCHOOL #3
FOR
JERSEY CITY SCHOOL DISTRICT
JERSEY CITY, NJ

STATE OF NEW JERSEY
SCHOOLS DEVELOPMENT AUTHORITY
1 WEST STATE STREET, TRENTON, NEW JERSEY 08625

H1 THIRD FLOOR PLAN
1/16" = 1'-0"

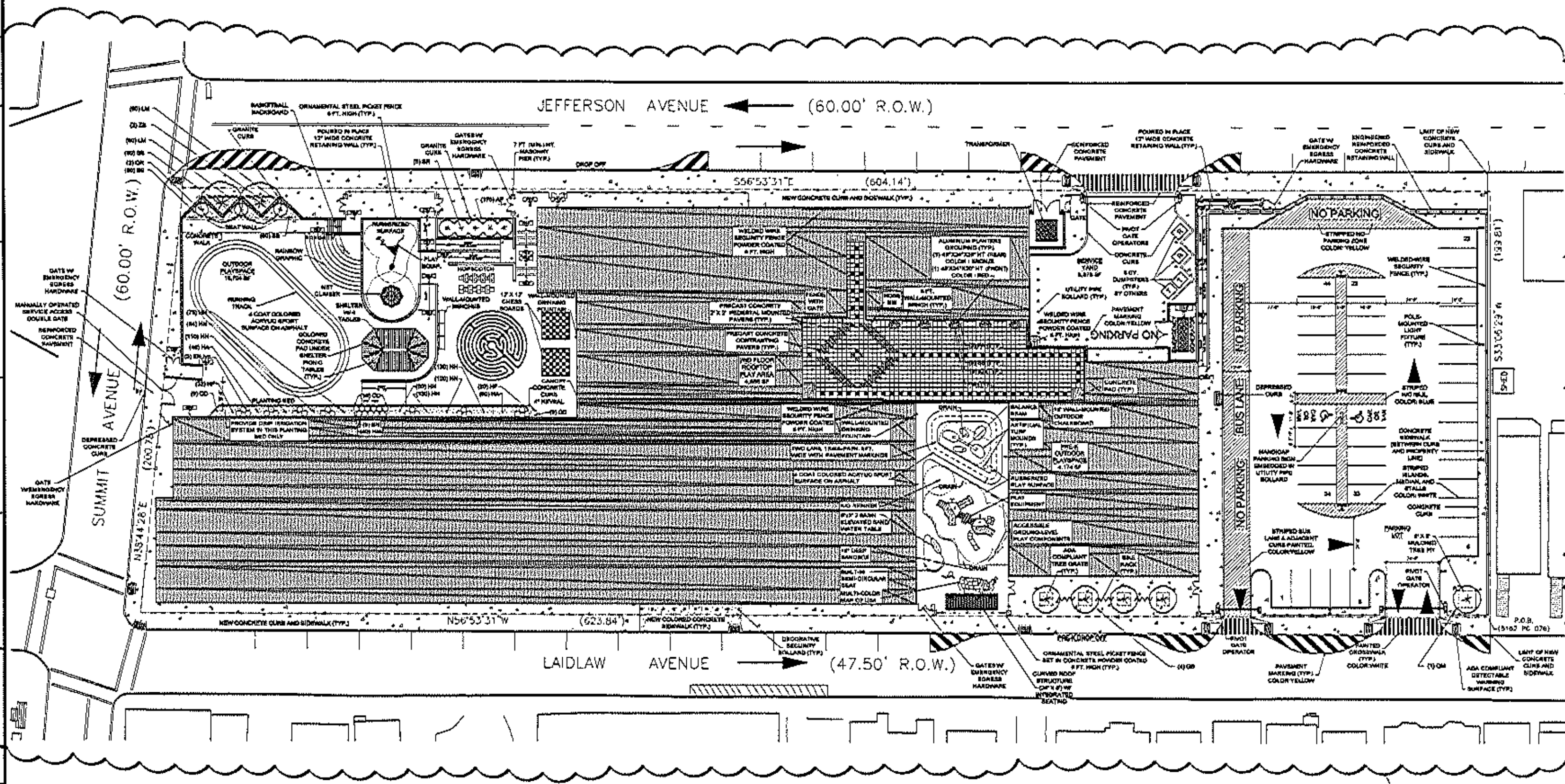


A-3

THIRD FLOOR PLAN

NEW ELEMENTARY SCHOOL #3
FOR
JERSEY CITY SCHOOL DISTRICT
JERSEY CITY, NJ

STATE OF NEW JERSEY
SCHOOLS DEVELOPMENT AUTHORITY
1 WEST STATE STREET, TRENTON, NEW JERSEY 08625



F1 LANDSCAPE PLAN

1" = 20'-0"

PLANT SCHEDULE							
Sym	Qty	Botanical Name	Common Name	Size	Root	Spacing	Remarks
GB	4	Ginkgo biloba 'Princeton Sentry'	Princeton Sentry Maidenhair Tree	3½"-4" CAL	B&B	As Shown	Matched, 5' Stems
QM	1	Quercus macrocarpa	Bur Oak	3½"-4" CAL	B&B	As Shown	Matched, Symmetrical
QR	3	Quercus robur x bicolor 'Long'	Regal Prince Oak	2"-2½" CAL	B&B	As Shown	Matched, 5 min. Stems
ZS	2	Zelkova serrata 'Green Vase'	Green Vase Japanese Zelkova	3-3½" CAL	B&B	As Shown	Matched, 5' Stems, prune in fall only
Flowering Trees							
SR	5	Syringa reticulata 'Ivory Silk'	Ivory Silk Japanese Lilac	5'-6' ht.	B&B	As Shown	Matched, 4' single stems, interesting bark
Deciduous Shrubs							
EN	32	Exochorda 'Niagra' P.P. #21,665	SnowDay Surprise Pearl Bush	—	1 gal. container	30" O.C.	Plant in staggered groups of 3 or 9 between windows
Groundcover							
AP	175	Aegopodium podagraria 'Variegata'	Variegated Bishop's Weed	—	1 qt. container	1 per s.f.	Plant under Tree Lilacs
LM	120	Liriope muscari 'Royal Purple'	Royal Purple Lilyturf	—	1 gal. container	1' O.C.	Plant under Green Vase Japanese Zelkova
SS	180	Sedum spathulifolium 'Cape Blanco'	Cape Blanco Stonecrop	—	6" pots	1' O.C.	Plant under Regal Prince Oaks
Ornamental Grasses							
CD	36	Carex dolichostachya 'Kaga Nishiki'	Gold Fountains Sedge	—	3 qt. container	1 per s.f.	Plant under windows
HA	126	Hakonechloa macra 'Aureola'	Golden Variegated Hakone Forest Grass	—	1 qt. container	2 per s.f.	Plant under windows
HM	40	Hakonechloa macra 'All Gold'	All Gold Japanese Forest Grass	—	1 qt. container	2 per s.f.	Plant under windows
HF	52	Hakonechloa macra 'Fubuki' P.P. #21,757	Brilliant Japanese Forest Grass	—	1 qt. container	1 per s.f.	Plant under windows
HN	425	Hakonechloa macra 'Naomi' P.P. #19,867	Naomi Japanese Forest Grass	—	4 ½" pots	3 per s.f.	Plant under windows
HN	264	Hakonechloa macra 'Nicolas' P.P. #19,848	Nicolas Japanese Forest Grass	—	4 ½" pots	3 per s.f.	Plant under windows
Perennial – Rooftop Raised Planters							
PA	15	Perovskia atriplicifolia 'Little Spire'	Dwarf Russian Sage	—	1 gal. container	See Remarks	Plant 3 per 48"x24"x36" Ht. Raised Planters
Ornamental Grasses – Rooftop Raised Planters							
SS	30	Schizachyrium scoparium 'Prairie Blues'	Prairie Blues Little Bluestem	—	4" pots	See Remarks	Plant 6 per 48"x24"x36" Ht. Raised Planters (3 per rear corner)
IC	45	Imperata cylindrica 'Red Baron'	Red Baron Japanese Blood Grass	—	4" pots	See Remarks	Plant 9 per 48"x24"x36" Ht. Raised Planters
PM		Planting Mixture Only		—		See Remarks	Planting Mixture placed in 48"x24"x20" Ht. Raised Planters install to 3" below top of planter

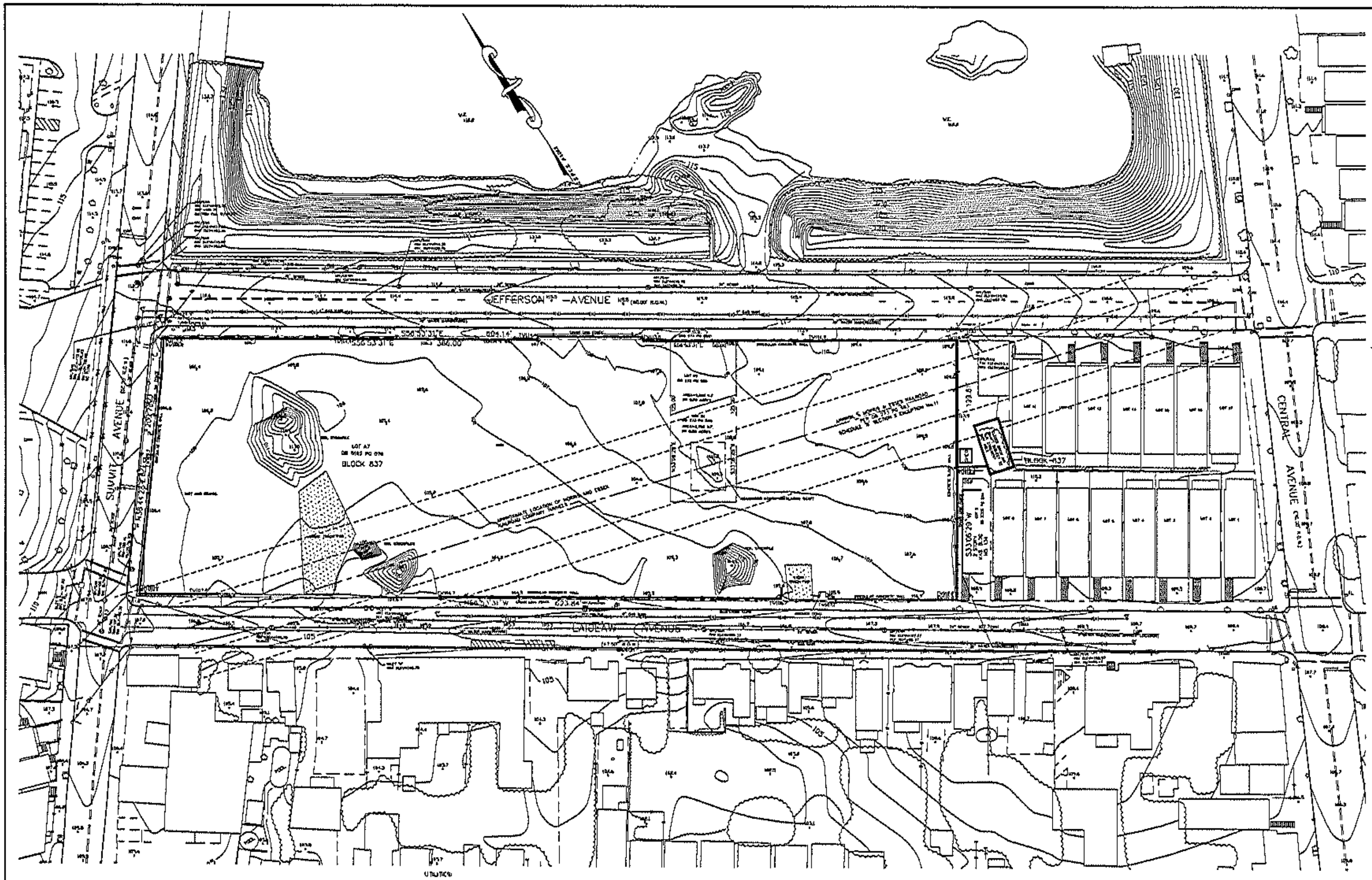
STATE OF NEW JERSEY
SCHOOLS DEVELOPMENT AUTHORITY
1 WEST STATE STREET, TRENTON, NEW JERSEY 08625

NEW ELEMENTARY SCHOOL #3
FOR
JERSEY CITY SCHOOL DISTRICT
JERSEY CITY, NJ

SCALE 1" = 20'-0"
DRAWN DW/PN/RF
DATE 02-25-13

LANDSCAPE PLAN

L-1



GENERAL NOTES:

1. THIS MAP IS BASED UPON AN AERIAL SURVEY PERFORMED BY ATLANTIS AERIAL SURVEY COMPANY IN SEPTEMBER 2003, SUPPLEMENTED BY FIELD SURVEY LOCATIONS PERFORMED BY MAITRA ASSOCIATES IN SEPTEMBER 2003.

2. TAX LOTS A7, B1 & B2 BLOCK 837 OFFICIAL TAX MAP CITY OF JERSEY CITY, HUDSON COUNTY, NEW JERSEY.

3. HORIZONTAL CONTROL FOR THIS SITE IS IN NAD 83 AND EXPRESSED IN U.S. SURVEY FEET. ELEVATIONS ARE REFERENCED TO NGVD 29 AND EXPRESSED IN U.S. SURVEY FEET.

4. HORIZONTAL AND VERTICAL DATUMS ARE BASED UPON CONTROL POINTS PROVIDED BY ATLANTIS AERIAL SURVEYING COMPANY, INC.

CONTROL	NORTHING	EASTING	ELEVATION	DESCRIPTION
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

5. THIS SURVEY IS SUBJECT TO A CURRENT REPORT OF TITLE.
6. POST DEMOLITION FIELD SURVEY PERFORMED ON 3-08-2013 (DEMOLITION NOT COMPLETED).

TOTAL AREA LOTS A7, B1 & B2
AREA = 122,842 S.F. OR 2.82 ACRES +/-

UTILITIES:

1. THE LOCATION OF UNDERGROUND UTILITIES AS SHOWN HEREON ARE BASED ON FIELD LOCATIONS OF SURFACE HARDWARE RECONCILED WITH:

(1.) SEWER: RECORD MAPS PROVIDED BY CITY OF JERSEY CITY

(2.) WATER: FIELD MARKOUTS AND RECORD INFORMATION PROVIDED BY CITY OF JERSEY CITY WATER DEPARTMENT

(3.) GAS: FIELD MARKOUTS BY P.S.E.&G.

2. THIS PLAN IS SUBJECT TO ANY PLANS OR DOCUMENTATION PROVIDED BY THE VARIOUS UTILITY COMPANIES THAT MAY EFFECT THIS SITE. THE USER IS CAUTIONED THAT THE UNDERGROUND UTILITY LOCATIONS ARE NOT GUARANTEED, NOR IS THERE ANY GUARANTEE THAT ALL EXISTING UTILITIES, WHETHER FUNCTIONAL OR ABANDONED WITHIN THE PROJECT AREA ARE SHOWN ON THESE MAPS. PRIOR TO EXCAVATING, AND/OR ANY CONSTRUCTION, A FIELD MARK-OUT OF ALL UTILITIES MUST BE REQUESTED BY CALLING 1-800-272-1000.

REFERENCES:

1. MAP ENTITLED "JDA DEVELOPMENT CO., LLC, LOT A.7 BLOCK 837, 184 LAIDLAW AVENUE JERSEY CITY, HUDSON COUNTY, NEW JERSEY, ALTA/ACSM BOUNDARY SURVEY DATED 8/25/2004 PREPARED BY PPC PROFESSIONAL PLANNING AND ENGINEERING 240 CEDAR KNOLLS RD. SUITE 106, CEDAR KNOLLS, N.J.

2. MAP ENTITLED "RESERVOIR HEIGHTS VILLAGE 2-FAMILY HOME DEVELOPMENT AT CENTRAL AVENUE JERSEY CITY, NEW JERSEY, SITE PLAN-PROPOSED SUBDIVISION" PREPARED BY MUSE ASSOCIATES ARCHITECTURE - ENGINEERING - PLANNING, AS MAP NO.3413.

3. MAP ENTITLED "BOUNDARY AND TOPOGRAPHIC SURVEY, DRAWING No. 1, BLOCK No. 837, LOTS A7, B1 AND B2, CITY OF JERSEY CITY, HUDSON COUNTY, NEW JERSEY," DATED 10/31/03, PREPARED BY MAITRA ASSOCIATES, P.C.

4. OFFICIAL TAX MAP CITY OF JERSEY CITY, HUDSON COUNTY, NEW JERSEY DATED OCTOBER 3, 1977 SERIAL NO. 571.

SCHOOLS DEVELOPMENT AUTHORITY

STATE OF NEW JERSEY

The Louis Berger Group INC

MAITRA ASSOCIATES, P.C.

JERSEY CITY ELEMENTARY SCHOOL #3
FOR
JERSEY CITY PUBLIC SCHOOL DISTRICT
JERSEY CITY, NJ

No.	REVISION	DATE

DATE: 25 FEBRUARY 2013

DRAWING TITLE
EARLY SITE PACKAGE
AS-BUILT SURVEY
BLOCK NO. 837
LOTS A7, B1 AND B2

DRAWING No
C-100